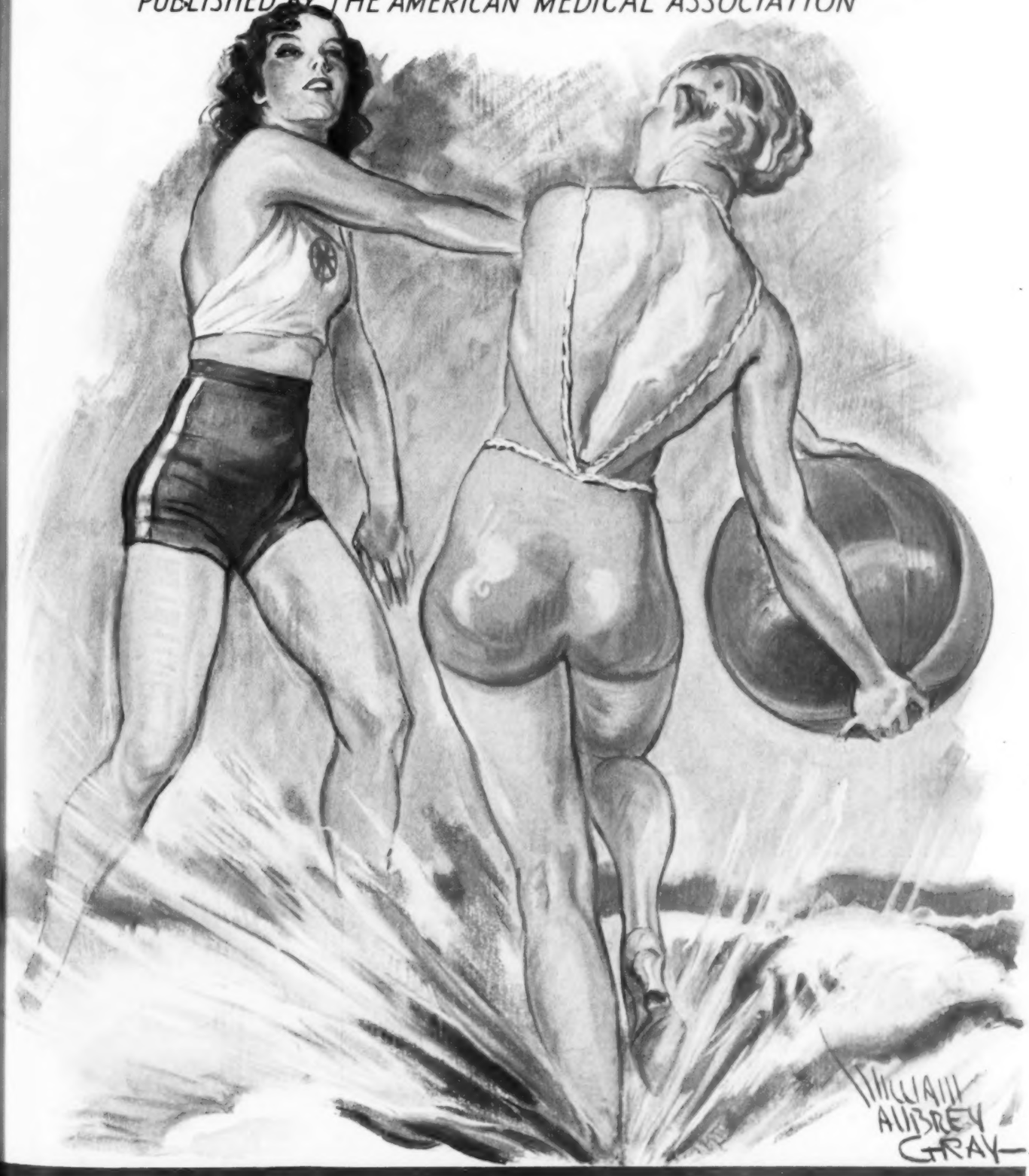
HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION



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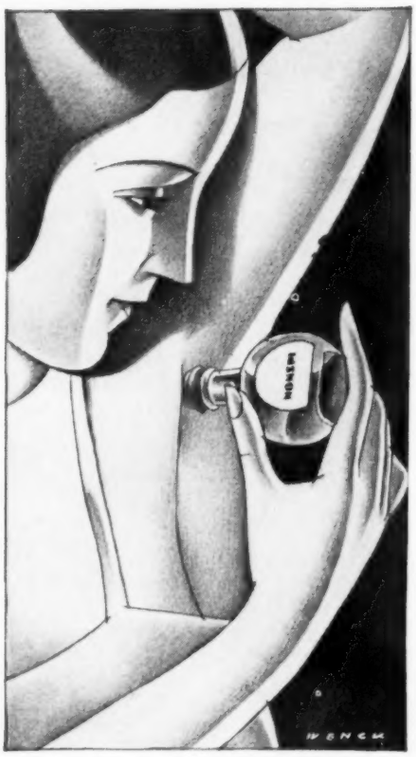
Mastoiditis

Anemia — *Nervousness* — *Allergy*



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HYGEIA•

AUGUST 1935

THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

Volume 13
Number 8

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AUGUST 1935

TYPHOID

By W. W. Bauer

TYPHOID is Number One Disease in the International List of Causes of Death, by which death reports are classified in most civilized countries. The international list was first compiled and adopted at a time when typhoid merited a ranking as Number One Public Enemy in the realm of health. Today it is called a vanishing disease.

Great interest always attaches to extreme contrasts. Photographs with high lights and deep shadows are more striking than those with more subdued tones of gray. Yet the picture that is less striking at first glance may be the more accurate in that it reveals the subject matter in greater detail. We are accustomed to refer to typhoid as an outstanding example of the victory of applied preventive medicine over disease. To a considerable extent this is justified, but it is worth while at this season of the year to consider that typhoid may still exist, and to know when and where it may be encountered. The status of typhoid as a health menace today may be gathered from the figures published regularly by a large insurance company which deals with approximately 19 million insured policy holders. In these figures for the first quarter of 1935 the provisional typhoid death rate was 0.5 per hundred thousand of lives exposed. Tuberculosis deaths in this group of insurance policy holders were 120 times as great; diseases of the heart, 358 times as great; kidney disease, 132 times as great, and most other diseases were of much more importance than typhoid. Yet there is a certain residual amount of typhoid, as evidenced by the fact that some persons still die of this disease.

FOR twenty-three years *The Journal of the American Medical Association* has published articles on the yearly incidence of typhoid in the large cities of the United States. The latest of these articles is for 1934. A few striking examples taken at random show the decline of typhoid death rates between 1906 and 1934. Bridgeport, Conn., for example, had a decline from 10.3 to 0 per hundred thousand; in New Haven the fall was from 30.8 to 0. In fourteen New England cities the rate between 1906 and 1910 varied from 9.8 to 30.8, while in these cities in 1934 the highest rate was 1.8, and nine of the fourteen cities had no typhoid deaths. In the Middle Atlantic states a similar condition existed. Similar figures could be cited for cities in other parts of the United States.

In 1934 there were no deaths from typhoid in the twenty-three American cities listed on the honor roll.

Ten out of fifty additional cities not on the honor roll but in low-rate groups (Milwaukee, Syracuse, Hartford, Long Beach, Paterson, Trenton, Canton, Omaha, Duluth and Salt Lake City) reported that all their deaths were in nonresidents, while thirteen more in the same group of fifty cities reported that one third or more of the reported typhoid deaths occurred among nonresidents of the city. This is explained principally in two ways: certain patients acquire typhoid elsewhere and return home during the incubation period, and certain patients residing outside city limits are brought into town for hospital care.

THE low typhoid rates in cities are unfortunately not duplicated in rural areas. A study made by the U. S. Public Health Service, comparing the relative frequency of typhoid in cities, towns and country districts of a representative state which is largely rural, develops typical facts. In this state, which had a population in 1920 of 1,664,868, the incorporated towns and cities suffered from typhoid in inverse proportion to their size. In sixty towns of from 500 to 1,000 population, there prevailed a typhoid case rate of 44.3 per ten thousand of population; while those of more than 25,000 population had a case rate of only 6.3. The rates in towns of intervening size were roughly proportionate to their size. Stating it another way, it was shown that sixty small towns with about one-fiftieth the population of the state had more than one-ninth of the cases of typhoid while the group including the three largest cities, all over 25,000 population, containing about one-eighth of the population of the state, had only one-tenth of the cases of typhoid. The small town is quite obviously "the neglected unit in sanitation."

The means by which typhoid is spread were first clearly demonstrated by William Budd in his masterly publication, which appeared in 1874 and was republished in book form by the American Public Health Association in 1931. Dr. Budd made his studies by what is known as the epidemiological method; that is, he observed the characteristics of the disease and how and where

EDITORIAL

it appears. He came to the conclusion, which has been verified many times since, that typhoid was a contagious disease and that it was spread by the intestinal discharges of the affected person which found their way through unsanitary methods of disposal into the food or drinking water of other persons. The admiration which physicians and public health workers hold for Dr. Budd is due to the fact that his work, which is a commonplace in health administration today, was of a pioneer character. Much of it was carried on as early as 1856, and it was published in 1874, only a short time after Pasteur began his work in bacteriology and before the discovery of the bacterial cause of typhoid in 1880.

Based on Budd's study of the characteristics of the disease and its occurrence, plus the later development of more modern weapons with which to combat typhoid, we are able to control typhoid to a great extent in cities. A typical example is the city of Chicago. A chart of typhoid deaths in Chicago from 1860 to 1920 showed certain high peaks of typhoid death rates from time to time, caused by the location of intakes too close to the shore; the disruption of all municipal services, including water supply, during the Chicago fire; low lake levels; the stoppage of pumps feeding the Illinois and Michigan canal, and other possible contributory circumstances. From 1891, there was a continuous downward trend marked by a steadily intensified drive for a better milk supply. Pasteurization of milk was started in 1909. Chlorination of water was started in 1912 and completed in 1916. Complete pasteurization of milk was achieved in 1917. This history of typhoid in an American city is not exceptional but typical.

IN THE meantime the small town remains the focus of typhoid in the United States. The small town is also the destination of the vacationist seeking relaxation, a change of scene and a letdown of responsibility. Being a city dweller he takes for granted the safety of the water he drinks, the milk he uses and the food he consumes. He does not know much about typhoid, except to realize in a vague way that science has triumphed over it. While in large measure the victory of science over typhoid may be accepted as a fact, it is not quite complete enough to warrant any relaxation of his precautions by the city dweller who ventures countryward.

It must also be remembered that the mere presence of sanitary plumbing in a fishing lodge or tourist rooming house in a small town does not necessarily imply safety against typhoid and other water-borne diseases. If the sewage outflow is not properly treated, and if the well or other source of drinking water is not adequately protected, a so-called sanitary system may be a worse typhoid menace than the old-fashioned earth privy from which the drainings may at least be filtered through earth and sand before contamination of a water supply is possible. Typhoid has been reported as a result of the ingestion of infected milk, drinking water from polluted wells, raw food washed in polluted water, polluted water swallowed in bathing pools or at crowded beaches and small lakes, and even in one instance as the result of an automobile accident in which the driver apparently escaped unhurt, being catapulted into a small creek. However, he swallowed polluted water and in due course a case of typhoid developed.

PROTECTION against so-called vacation typhoid consists in vaccination against the disease plus watchfulness en route. This vigilance consists in drinking water from approved sources only, even if it becomes necessary to carry a water supply. When any doubt exists as to the safety of a water source the water should be rejected or should be drunk only after boiling. Pasteurized milk only should be used.

In addition to the precautions advised for travelers, it is worth while for city dwellers to recognize the fact that their safety rests on artificial safeguards provided through the public health department of their community. It is to the interest of every city, through the state board of health, to encourage by every means possible the introduction of modern sanitary arrangements in rural areas that city dwellers seek for their summer relaxation. In spite of the marvelous growth and inspiring triumphs credited to public health work in the last half century, it is a regrettable fact that large areas in this country are still far behind modern progress in one of the most elementary fundamentals of public health work; namely, the sanitary disposal of human excreta.

Honor Roll of American Cities with No Deaths from Typhoid in 1934

BRIDGEPORT
ELIZABETH
FALL RIVER
GRAND RAPIDS
JERSEY CITY
LOWELL
LYNN
NEW HAVEN
PEORIA
READING
ROCHESTER
ST. PAUL
SCRANTON
SEATTLE
SOMERVILLE
SPRINGFIELD
TACOMA
TAMPA
UTICA
WATERBURY
WICHITA
WORCESTER
YONKERS

Abscessed Ears and Mastoiditis

By

J. ROBERT BURKE

DO NOT DO TOO MUCH DIVING. NEVER BLOW YOUR NOSE WHEN SWIMMING OR FOR AT LEAST AN HOUR AFTER LEAVING THE WATER, AND THEN DO IT WITH CAUTION SO THAT YOU WILL NOT FORCE WATER OR NASAL EXCRETIONS INTO YOUR EARS.

"HAS HE a mastoid, Doctor?" This is one of the first questions distressed parents ask an aurist, or ear physician, when they learn that their child has an inflamed or abscessed ear. The word "mastoid" to them is the embodiment of all that is fearful and terrorizing. We all have mastoids, and they, as such, are perfectly innocuous; but mastoiditis, which is inflammation of the mastoid bone, should be understood more fully since that is what is meant when the layman speaks of "a mastoid."

Why and how does an abscess of the middle ear occur? Practically all abscesses of the ear are secondary to infection in the nose or throat, which usually follows either a "cold" or the acute infectious diseases such as scarlet fever and measles. Since the common cold is the usual precursor, obviously the best way to prevent ear abscess is to avoid colds.

There is no definite way of preventing colds, but there are certain rules to follow which will help. First, keep up the general body resistance. This is best accomplished by eating the proper foods: milk, fruits, eggs, cereals, butter, vegetables and, in the case of children, cod liver oil the year round. Adults often need cod liver oil to bolster up their resistance. An insufficient quantity of vitamin A in children seems to lower the resistance to infection of the upper respiratory tract, while lack of vitamin B produces a chronic postnasal mucous discharge in adults as well as in children; but the taking of excessive amounts of vitamins A and B will not guarantee freedom from colds and may even do harm. Get plenty of sleep, take moderate regular exercise and live sanely. Keep the air in your house fresh, moving and moist. Do not sleep in an extremely cold room. Avoid contact with all persons suffering from colds or chronic nasal discharges. If a cold is acquired, treat it as something potentially serious.

AURAL infection from the nose or throat may travel by direct extension along the mucous membrane lining the somewhat elastic eustachian tube, which runs from the back of the nose to the middle ear; or, as most frequently happens, infected material may be propelled forcefully through the tube and into the middle ear when the nose is blown with too much gusto.

The eustachian tube is closed except during swallowing. Because of the narrowness of this tube and because of the swelling caused by inflammation, it is impossible for foreign and infected material to leave the middle ear easily. Since bacteria like such a place in which to

generate more bacteria, additional material is produced, pus is formed and the pain begins. This condition is an abscess of the ear.

WHAT and where is the mastoid? The mastoid process is one portion of the temporal bone. The temporal bones, one on each side of the head, have great responsibilities as they protect, along with many other vital structures, the delicate hearing apparatus and a part of the body balancing mechanism. The mastoid process lies in back of the ear and is not a solid piece of bone but contains many air cells.

Let us suppose that you are looking at the left side of a person's head, held upright, and that your eyes are on a level with the outer opening of his ear. This opening is the beginning of the external ear canal, which is usually a little more than 1 inch in length. It does not travel a straight course but a tortuous one toward the center of the head, and its inner end is pointed downward and inward. At the end of this canal lies the ear drum, which is not large in any diameter, averaging roughly from one-fourth to three-eighths inch, and is extremely thin. In the ear drum is imbedded a part of one of the three tiny bones that form a chain to convey sound impulses to the brain.

Imagine an oblong box placed on end, at the end of the canal. We shall call this box the middle ear. The side of the box nearest you is the ear drum. The side farthest away has a small opening in its lower front corner. This is the outer end of the eustachian tube. The top side of the box has an irregular opening extending upward and backward for about one-half inch. This forms a tunnel of communication about an inch below the surface of the skull and between the middle ear and the mastoid process. This process is triangular in shape, and most of its cells are below the tunnel just described.

There is but one natural opening from the outside world into the middle ear, and that is by the way of the eustachian tube. There are three ways in which fluid may escape from the middle ear: through an incised or perforated ear drum; through the eustachian tube into the back of the nose, and through the tunnel into the mastoid process.

If an abscess develops and the middle ear is not immediately evacuated by incision or spontaneous rupture of the drum, the inflammatory process is liable to spread. The only outlet now is through the communicating tunnel between the middle ear and the mastoid process. The pus eventually reaches the cells of the bone. If it extends rapidly enough and the patient's resistance is not sufficient to combat the infection, more pus and inflammation are produced and destruction of the bone takes place. An acute mastoiditis has resulted. This condition may go on until all the cell walls are broken down. Since the bottom of the mastoid process is below the opening into the middle ear, proper drainage is impossible unless an operation is performed in which an artificial opening is made through the mastoid bone, so that the pus is released and all diseased bone is removed.

Mastoiditis is relatively infrequent when one considers the common occurrence of aural abscesses. The operation for the relief of mastoiditis, in the proper hands, is not as serious as is generally supposed. Different strains of bacteria cause different types of infection and varied symptoms. In some cases the direction the infection takes and the speed with which it works are truly unfortunate, because some vital structure may become involved.

It is surprising as well as alarming to learn of the number of persons who consider a painful or discharging ear of slight consequence. Sometimes parents who have called a doctor to treat the first case of ear abscess in the family and have witnessed a return to normal hearing feel they can carry out the proper treatment for all subsequent involvements. This is a dangerous procedure, for not all cases are alike.

If you can keep free from the common cold, you will avoid 90 per cent of abscessed ears and possible mastoiditis. If you miss the acute infectious fevers and are careful when swimming, you will avoid the other 10 per cent.

Do not do too much diving. Never blow your nose when swimming or for at least an hour after leaving the water, and then do it carefully so that you will not force water or nasal secretions into your ears. The safest way to clear the nose is to keep the mouth wide open and, while closing one side of the nose at a time, inhale deeply through the mouth and then with moderate force exhale through the nose. Never close the mouth or puff out the cheeks. In normal persons abscesses of the middle ear never result from water entering the ear canal. The mischief comes by way of the eustachian tube.

ABSCESSES in the outer ear canal may be caused by too much water in the canal. The skin becomes macerated and loses its protective function. If the skin is broken by finger nails, hairpins or matches, an abscess may result. These abscesses, although sometimes extremely painful, are not as serious as those in the middle ear; but never put anything "smaller than your elbow" in your ear.

Children and adults know when they have ear trouble and soon broadcast the fact; but the infant in the same predicament is not so fortunate. If a baby cries too long, is fretful or has an unexplained fever, always think of possible ear trouble.

Inflamed ears, if treated early enough, may be prevented from becoming abscessed. Do not neglect a painful or discharging ear. Have it examined and treated as quickly as possible.

All photos by Doris Day

When Children and

By GEORGE A. SKINNER

WHEN ONE THINKS OF PETS IT IS USUALLY OF THE LITTLE GIRL AND HER KITTEN OR THE BOY AND HIS DOG. HISTORY DOES NOT GO BACK FAR ENOUGH TO DISCOVER A TIME WHEN CHILDREN AND ANIMAL PETS WERE NOT MORE OR LESS MIXED UP IN FAMILY LIFE AND PLAY. THUS ANIMAL PETS HAVE COME TO BE A PART OF MOST HOUSEHOLDS TODAY.

IT WOULD be interesting if we could look into the remote past and discover just when and how men first came to select animals for companions. Certain it is that animals of various sizes and varieties were living in intimate contact with human beings long before any history now known was written. It may be that when man developed the intelligence that differentiated him from the lower animals, he realized his physical limitations and longed for greater strength, speed and endurance in the struggle for food with the great beasts that were then probably contesting his right for existence. Perhaps he saw the speed of the horse and realized how great would be his advantage if the horse could be harnessed. Maybe he noted how the wolf could follow game by the sense of smell, while he had to depend mostly on his eyes for successful hunting. However it came about, man early learned to use the speed of the horse and the keen sense of smell of the wolf to his own advantage, and so through the ages the horse and the descendant of the wolf, our friend the dog, became part of the human family. Doubtless man gradually realized that his search for food would be easier if the various birds and animals that he used to supply his needs were close at hand. He soon tamed fowls, wild hogs and cattle. Later he began to store food to provide for times of scarcity and to contrive ways to protect it from other animals, especially rodents. During this continued struggle for food he may have noticed that certain of the catlike animals ate rodents. So he added the cat to his family.

Children have always been attracted to living things, especially the little ones. Perhaps our primitive man captured some of the small animals and birds and kept them where the youngsters could amuse themselves. At any rate, children learned to get along with animals and to claim them for pets. Especially was this true of dogs and cats. History does not go back far enough to discover a time when children and animal pets were not more or less mixed up in family life and play. Thus animal pets have come to be a part of most households today.

SUCH household pets live in very intimate contact with human beings, occupying the same house and sometimes the same bed, eating from the same dishes or from the hand and traveling in the same automobile, and so they become really a part of the family. People have become so accustomed to pets in the home that the absence of animals or birds is perhaps more noticeable than their presence. Pets are taken so much for granted that often they are treated

Animals Mix

"LOVE ME, LOVE MY DOG!" THIS IS BUT ONE EXPRESSION OF THE GENUINE AFFECTION THAT IS GENERALLY FELT TOWARD THIS FAITHFUL FRIEND OF MAN. IN VIEW OF THE DISEASES THAT MAY BE TRANSMITTED BY DOGS AS WELL AS BY OTHER ANIMALS, IT IS WELL TO CONSIDER HOW THIS FRIENDSHIP MAY BE CONTINUED WITH SAFETY.

as though they were children, nursed through sickness and mourned when dead. Little thought is usually given to the possibility that sick pets may transfer their disease to the children of the family. As science has advanced, many of the mysteries of apparently isolated diseases have been solved by the knowledge that most of the diseases that afflict animals are also common to the human family. This being the case, it is wise to know how diseases may be transmitted from pets to children or from children to pets, in order that the possibility of rapid or continuous transmissions may be checked.

When one thinks of pets it is usually of the boy and his dog or the little girl and her kitten. These two animals are the most popular pets in the American homes though rabbits, guinea-pigs, white rats and mice, parrots, canary birds and less common animals and birds are familiar sights.

THE great esteem in which various types of dogs are held by both sexes and all ages is too well known to need more than mention. "Love me, love my dog" is but one expression of the genuine affection that is generally felt toward this faithful friend of man. So it will be well first to consider how this friendship can be continued safely. The suggestions made in regard to the handling of dogs apply largely to all pets and may be taken as typical of the precautions necessary when children or adults are in intimate contact with animals or birds of any variety.

What consternation and fear the cry of "mad dog" causes! And with good reason, for the bite of the mad dog or rabid animal is always serious and used to be almost uniformly fatal until the great work of Pasteur provided a remedy. Practically all animals are subject to rabies, but as dogs are closest to the human family, it is among them that the disease is seen most frequently and is most dangerous to man.

RABIES, or hydrophobia as it was formerly called, is caused by a microbe transmitted by the bite of a rabid animal. Dogs, cats, wolves, horses and even cows may be infected. The poison of the germ is rather slow in action and affects the nervous system principally. Spasms of the muscles and fever causing great thirst are among the early symptoms. These muscular spasms affected the muscles of the dog's throat and prevented the swallowing of water, thus leading to the belief that the dog was afraid of water, when in fact he was struggling to get it; hence the name hydrophobia, fear of water.

PETS SHOULD ALWAYS HAVE THEIR OWN DISHES FROM WHICH TO EAT AND SHOULD NEVER BE ALLOWED TO USE DISHES FROM WHICH ANY MEMBER OF THE FAMILY IS SERVED.

The first symptom of the disease, which appears to develop very suddenly in dogs, is sometimes a complete change in disposition and perhaps an attack and several bites inflicted before the animal can be restrained; but usually there are distinct warning symptoms, when the dog is suspicious or cross or perhaps cowering. He may have difficulty in swallowing either food or water. Any change in disposition or actions of the dog from his normal should be at once noted, and the animal should be isolated for observation. Naturally not every dog that is sick has rabies, nor does even the bite of a rabid dog always cause this disease. Some dogs that are not rabid may bite merely because of fear or a frolicsome nature. It is therefore exceedingly important that the suspected dog be observed in a safe way and not be killed at once. The proper observation may prove that he was not rabid, thus avoiding the necessity of rather troublesome and expensive treatment. If a veterinarian is available he should take charge of the dog and determine whether or not the symptoms indicate rabies. This will not take long, as the dog will recover promptly or die. In the latter case, those who have been bitten should lose no time in getting the Pasteur treatment for rabies, which is almost always a certain preventive. The action of the virus is slow enough to give ample time for the determination of the dog's condition. In cases in which the bite has been about the face or has been quite severe in parts unprotected by clothing, treatment should be begun immediately; and if the results prove that the dog was not rabid, no harm is done.

OF LATE years much success has been attained by veterinarians who used inoculation as a method of prevention of rabies in dogs. The percentage of protection is high enough so that all family dogs should have this protection.

OF THE ordinary troubles that develop from the presence of dogs, perhaps the most common is flea infestation. All animals, especially those with long hair, offer ideal protection for fleas, so that dogs are always infested if not carefully protected and kept clean. Ordinarily fleas cause much irritation both to animals and to human beings from the itching following their bites, but nothing more serious develops. There are times, however, when fleas may convey serious infections, especially bubonic plague. When this deadly disease occurs, every precaution must be taken to keep both men and dogs free from these pests. The flea that causes the spread of this infection usually lives on rats, but not being particular, it will readily seek food from dogs or human beings if rats do not happen to be handy. Various preparations are on the market to minimize the plague of fleas, but it takes much care and constant effort to keep animals even reasonably free from these parasites.

All animals are subject to lice infestation, and all neglected animals harbor these parasites. Some varieties of lice bite and some suck, but all cause much irritation. The more serious skin diseases of dogs and cats, especially the disease called "mange," are caused by such mites. The care that keeps pets free from fleas usually is sufficient to prevent louse infestation.

Ticks of various kinds are troublesome and sometimes dangerous both to animals and to men. Dogs and cats running at liberty, especially in wooded areas, are frequently badly infested by ticks. Ticks should be removed and destroyed as quickly as possible.

Dogs are subject to a number of tapeworms and are sometimes the means of spreading them to children. Not all tapeworms are dangerous. A rather formidable one is Taenia echinococcus, or dog tapeworm. This is much more common in dogs in some localities than is generally realized. The same worm is found in cattle and sheep and does little damage to any of them. As a rule the dog gets it from eating raw meat. It then develops in his intestinal tract, and while it is small, each little segment gives out 300 or 400 eggs. These tiny segments of the worm may reach man in a number of ways. The dog, irritated by their presence in the lower end of his rectum, licks the itching part. The segments thus pass to his tongue. He licks the hand of his master or perhaps "kisses" the children, passing the segments of the worm on to the lips or hands and so to the mouth. If the dog is fed from dishes that the family uses, and they are not carefully disinfected, the segment of the worm with its hundreds of eggs may pass on to the human host. They often cause fatal damage in man by infecting and partially destroying the liver, which they especially seem to favor, or the lungs, kidneys or other internal organs. Such infections are especially common in men who handle dogs, such as shepherds, attendants at dog hospitals, breeders, dog team drivers and the like. The parasites form large cysts. In one case some years ago, the liver was so damaged that about two quarts of the "cystic" or gelatinous material had to be removed by an operation. Fortunately this patient recovered, as many do when the trouble is recognized early enough.

VARIOUS forms of parasitic skin infections frequently found in pets, dogs and cats in particular, are of the "vegetable" type, commonly called ringworms. Usually they are easily cured and comparatively harmless. Only one or two varieties are extremely persistent and resist the ordinary remedies. These infections are particularly serious when passed on to children, whose hair or finger nails may become involved. The method of infection is exceedingly easy. The child pets or scratches the animal and then rubs his own face or scalp, and the trouble starts.

Cats are perhaps accused of more disease transmission than they are really responsible for. However, they are subject to the same skin parasites and have tapeworms of their own. They may transmit rabies, and many isolated cases of diphtheria, scarlet fever and other communicable diseases have been charged against these household pets.

Of late years much has been heard of a "parrot disease," or psittacosis. This infection is not limited to parrots. Other birds, such as canaries, as well as rabbits, guinea-pigs and other animals are also susceptible. Curiously enough this disease is an intestinal one in birds, while it passes on to man as a form of lung disease, as a rule. Psittacosis is quite dangerous but is easily controlled. The most extreme caution is necessary in caring for sick birds if the infection is not to pass to the one nursing the bird. As parrots are by far the most common carriers of the disease, the source is usually easily traced and prevented. The less the birds are handled, the less is the danger of infection. The playful stunt of allowing a bird to feed from food held in the teeth or mouth of the owner is always dangerous.

CERTAIN effective methods of safeguarding may be followed with regard to pets, but they require a considerable amount of effort and thought on the part of each member of the family. Training the children early in the observance of the following rules will materially reduce the danger of disease:

1. Scrupulous cleanliness of the pets is essential not only for their health but for the health of children.

2. Pets should always have their own dishes from which to eat; they should never be allowed to use dishes from which any members of the family are served.

3. When pets, especially dogs, live in the house, the danger of rabies is an ever present one. Every dog should be immunized against rabies annually. When playing with children, the dog should be muzzled.

4. Neither animals nor birds should be allowed to "kiss" the children or to lick their hands. Contrary to a belief still popular in many places, there is no healing in a dog's tongue; there is, however, much danger of conveying infections.

5. It is much safer for all concerned for the pets to be kept in their own quarters and not in intimate association with the family. The less the pets are handled, the better it is for both children and pets; but after the animals are handled, the hands should always be carefully washed immediately. This is particularly essential before meals, in order that the danger of conveying parasitic infections to the digestive tract or to the skin may be lessened.

6. Pets should never be allowed to sleep with children.

7. When pets are ill they should be isolated until the cause of the illness has been determined and recovery has taken place. If rabies is suspected the animal should be placed at once in care of a veterinarian. If it should be necessary to destroy the animal the head should be packed in ice and sent to the nearest laboratory so that the presence or absence of rabies may be determined.

The observance of these simple rules will result in infinitely greater safety for children and much more comfort for their pets.

Some Popular Fallacies About Anemia

By
RAPHAEL ISAACS
and
AGNES W. ISAACS

"MARY IS SO PALE THAT I AM SURE SHE MUST HAVE ANEMIA."

THE OTHER day a woman brought her little daughter into a hospital for treatment. The girl was pale, and she tired easily. "Mary is anemic," said her mother, "and we have been giving her all kinds of medicines and all the special foods that we have been told are good for anemia, but she does not improve."

"How much anemia has she?" the physician asked. "Has she ever had a blood count made?"

"No," replied the mother, "but she is so pale that I am sure she must have anemia."

That is fallacy number one, the idea that pallor means anemia. True anemia means either that there are too few red blood corpuscles or that the amount of hemoglobin, the red coloring material in the blood, is diminished. This is discovered by means of making a blood count. The color of the skin, however, is the result of the amount of blood in the skin capillaries, and this is modified by the texture, thickness and native color of the skin itself. A person may be pale and still have perfectly normal blood. A familiar example of this is seen when a person faints, or turns pale from fright. He, or she, still retains precisely the same amount of coloring matter in the blood, but the color of the skin changes. On the other hand, an anemic person, coming into a warm room from the cold, may look quite ruddy.

A DROP of blood was taken from Mary's ear, and a careful blood count was made. It was found that she had 4½ million red blood cells per cubic millimeter, and 75 per cent hemoglobin. Mary's mother was puzzled when she was told that the blood was normal. "Shouldn't the amount of hemoglobin be 100 per cent?" she quite naturally asked. This necessitated the

explanation that the scale of colors used for the determination of hemoglobin has its 100 point set exceedingly high, higher than that which most healthy men or women ever reach. Different scales, made by different manufacturers or according to different standards, vary considerably. The one used was first developed by a Swiss physician named Sahli, and the hemoglobin of normal men was from 75 to 90 per cent on this scale, and that of normal women from 70 to 80 per cent, because women have less coloring matter in their blood than men have. Of course, if another scale had been used, the results would have been different. If Mary had gone to another doctor, who used a different method for estimating the amount of hemoglobin, she might have been told that the amount was anywhere between 60 and 90, and quite correctly too. Furthermore, the amount varies during the course of the day, and even with the same method, for one technician may read the number as 73, another as 75, and a third as 77 per cent.

MANY other popular fallacies as to what constitutes the symptoms of anemia are current. Circles under the eyes do not necessarily mean anemia, as these are associated with entirely different causes. A person who has a so-called "run-down" condition may have blood that is absolutely normal, although there is a popular feeling that being "below par" means anemia. Nervousness may or may not accompany anemia, and the two are frequently totally unrelated. Some patients with anemia have practically no symptoms, except, possibly, after marked exertion. Others, with a comparatively slight anemia, may show signs of extreme sickness. Cancer does not always produce anemia as many persons think; in fact, anemia seldom develops until the disease is quite far advanced and has been present, with apparently normal blood, for months or even years. Neither are anemia and tuberculosis necessarily associated, and in one form of tuberculosis a person may have a higher blood count than is normal.

Some advertisements would lead one to believe that skin blemishes are associated with anemia and that a "clear skin" can be obtained if medicine is taken to "improve the blood." Some of the smoothest, clearest skins are seen in patients with a pronounced degree of anemia. Of course, no one would choose voluntarily this particular method to acquire a smooth and beautiful skin.

So-called infected teeth rarely cause anemia. In certain types of anemia, however, as a result of the defective blood, the gums may become badly diseased, causing loss of teeth. Similarly, infected tonsils seldom cause anemia, but the tonsils may become involved later, as a result of the anemia; or conversely, the disease that affects the blood may also affect the tonsils. Every one has heard of taking medicine and all sorts of home remedies in the spring for the "blood," though since one is no more anemic in the spring than at any other season of the year, the sulphur and molasses and other "spring" tonics are not needed to cure a disease which was never present.

As to the treatment of anemia, some accounts have featured the wonders of liver as a cure-all. Liver or dried stomach will relieve human anemia, only if the defective blood is caused by a failure of the red blood corpuscles to ripen. These substances cause the unripe cells to mature, but if the anemia is due to some other cause, they will be practically useless. It must be remembered that there are ten or more kinds of anemia, each caused by a different defect and each requiring entirely different treatment. One person's anemia may differ entirely from that of another, so that two persons with anemia may require entirely different kinds of medicine. Liver is good for dogs which have had a hemorrhage, but it is not especially valuable for persons who have been bleeding, because they would have to eat too much of it. Copper is advertised extensively for the treatment of anemia. At present its use appears to be limited to sick rats which have had a diet of milk alone. Fortunately there are not many rats of this type, so that the problem is not exceedingly serious. Milk itself has wonderful properties as a general food, but it is inadequate for supplying the needs of the blood building organs. Arsenic is a common constituent of many so-called blood tonics. This was an old medicine, and it has now been replaced by much more potent and less poisonous substances.

BLOOD does not make blood, and blood taken by mouth has practically no value for a person with anemia. Some persons eat rare meat in the hope that the blood of the cow or ox may turn into human blood quickly. This is a curious fallacy, as there is little to be derived from animal blood that will in any way help to make human blood. The drinking of blood merely adds an increased strain on the digestive organs, and finally the material is expelled from the body.

There is much talk about the use of vitamins in treating anemia, but so far nothing has been accomplished with vitamins in anemia that has not been accomplished without them. At present, vitamins A, B, C, D, E and G are known, but there is still a possibility that a vitamin affecting anemia may be discovered.

Cod liver oil has its uses, but it is not specific for anemia. Green vegetables and spinach are, no doubt, sources of iron, but they are not at all economical when iron is needed for anemia. The same is true of other much heralded sources of iron as, for example, raisins, apples, whole-wheat bread and the like. These substances are

valuable foods, but they are valuable for purposes other than to provide iron. When iron is needed in anemia, these foods are but a drop in the bucket and may overburden the sick person with an unnecessary bulk. These sources of iron are totally inadequate when large doses are needed. Soups, beef teas and extracts are about as valuable as water for the "building of blood," and for some patients they are not quite as desirable. The water supply of some communities contains iron. The amount present, while enough to ruin clothes and plumbing fixtures, is inadequate as a source of iron in anemia and is without medicinal value. Iron in "tonics" is wasted unless the person needs iron, and then it is only of value when there is enough of it.

Ultraviolet radiation has been advised in anemia, but for this purpose it appears to be totally valueless. Sometimes it is distinctly harmful. One hears much of the health giving qualities of sunshine and fresh air, but for the anemic person there is no magic in them as a blood maker. One may live in the dark and yet have perfectly normal blood; and while fresh air is more pleasant than stale air, whether the air is helpful or harmful depends solely on what causes the freshness or the staleness. Sunshine and fresh air are no doubt good for the improvement of certain qualities of a sick person, but when taken as a medicine for anemia they will not make blood. This must not be interpreted to mean that a person with anemia should avoid fresh air and sunshine. It does mean, however, that there are types of anemia which all the fresh air and sunshine in the world will not cure, without the addition of the proper medicine.

There is no reason for taking a mixture of medicines for anemia when one special medicine is indicated. Some anemias require procedures other than the taking of medicine, so that the cause of the loss or destruction of the blood must be removed. There is no magic quality in fancy iron medicines when simple ones are more effective and cost less. If a penny's worth of iron is needed, it is not economical to eat a bushel of spinach or pay two to three dollars for a solution in a pretty bottle, even if it does contain from 15 to 20 per cent of alcohol. Red medicines do not make blood any more quickly than those of any other color, and wine, which has long enjoyed a place among substances considered "good for the blood," is valueless, if not detrimental, in the cure of anemia.

One needs about ¼ grain (15 mg.) or less of iron a day when one is well. In disease one may need many times this amount. This is normally taken by mouth, and all iron, before it can be used, must be digested and prepared for the body by the stomach and intestines. It is seldom necessary to inject iron into a vein or under the skin, and when it is necessary, it throws an extra strain on the sick person.

There is only one way to diagnose anemia, and that is to examine the blood, preferably under a high powered microscope. The doctor will count the number of red and white blood cells in each cubic millimeter and will study the sizes, shapes and kinds of blood cells present. He will also measure the amount of hemoglobin. Under special circumstances many other tests are necessary. This is the only way in which the correct treatment can be given and the progress of recovery determined.

"NOW LET'S GET IT STRAIGHT ABOUT THE SPINACH BEFORE THE GUESTS BEGIN TO ARRIVE!"

The Curious Thing Called ALLERGY

By Lee D. Cady

ALLERGY is an abnormal reaction of the human body, causing considerable illness and discomfort. When the body becomes abnormally sensitive to any substance, such a state is called allergy. Thus it is not the fault of the strawberries that certain persons have rashes, but it is the fault of their own bodies.

The allergy group includes the various hay fevers, asthma, hives and certain forms of eczema or so-called contact dermatitis. In addition to these the physician occasionally encounters curious manifestations such as massive swellings in parts of the body and stomach aches which apparently have no rhyme or reason until the actual cause is discovered. It is not always easy to discover the causes of the various types of allergy, and not infrequently both the patient and the doctor must become medical detectives. Probably in other cases the doctor is little handicapped in his quest for the offending substance because he has test substances which cause telltale reactions on the patient's skin. Needless to say, the cure for these conditions is almost invariably the removal of the offending substances.

Following are several cases in which the diagnosis and treatment for three allergic persons in one family were involved.

Guy Mannering had severe summer colds which every one told him indicated hay fever. His doctor tested him with pollen extracts and found that the condition began with the pollination of blue grass and grew worse when orchard grass began to pollinate. Guy was always especially uncomfortable from early August until the frosts came. That corresponded with the ragweed season. If he remained in rooms with pollen-free air he became much better within twenty-four hours.

Obviously, it is a difficult thing to remove offending pollens because they are floating around in the air. Guy therefore had either to move to another climate or to improve the climate in his own room at home by means of air filters. He might have gone up on a mountain, or he might have been relieved by staying in a skyscraper during the pollinating seasons. Since these procedures were extremely inconvenient for Guy, he chose to be treated by means of desensitizing injections of pollen extracts.

IT IS NOT ALWAYS EASY TO DISCOVER THE CAUSES OF THE VARIOUS TYPES OF ALLERGY, AND NOT INFREQUENTLY BOTH PATIENT AND DOCTOR MUST BECOME MEDICAL DETECTIVES.

These extracts give considerable relief to many persons who suffer from hay fever if the desensitization injections are started early enough before the pollen begins to fly.

GUY's sister, Mary, had a milder nasal condition that was present most of the year. This condition became almost normal to her, for when she had ordinary colds, she suffered much more than most persons. In fact, sinusitis used to develop at times. Weeks of her life were made miserable. She was much surprised when the doctor told her she was sensitive to cattle hair, duck feathers and a certain type of mold.

Why, how could that be? Mary certainly did not keep any cows in her immaculate home, and she would know she were ill, indeed, if she thought she saw ducks quacking in the yard. As for molds, her home was not neglected in so disgraceful a manner!

Nevertheless, the doctor made an inspection of the Mannering home and showed her that there was plenty of cattle hair in the overstuffed furniture and in the rug pads.

MARY WAS MUCH SURPRISED WHEN THE DOCTOR TOLD HER THAT SHE WAS SENSITIVE TO CATTLE HAIR. WHY, HOW COULD THAT BE? CERTAINLY, SHE DID NOT KEEP ANY COWS IN HER IMMACULATE HOME!

"But where are the duck feathers?" asked the amazed Mary.

The doctor then examined the pillows on Mary's bed and found they were stuffed with duck feathers. Several moldy spots in the basement were later shown to be offensive to Mary's sensitive nose.

What must Mary do? She could remove the offending dusts, but she could not afford to get rid of all the furniture. She did the next best thing. She had the basement thoroughly disinfected, and she changed the pillows and took some of the vacuum cleaner dust to the doctor's office. He had an extract made of the dust and used it to secure partial desensitization for her, much to her mental and physical relief. Her type of hay fever, which is called perennial nasal allergy, is not due to pollens at all.

WE MAY as well continue with the Mannering family and tell about Patrick, the father. For years he had attacks of bronchial asthma which later developed into chronic bronchitis. Although he had used a cough mixture prescribed by his doctor several years before, he was more or less resigned to having asthma for the remainder of his life. Sometimes he had attacks of asthma during the day, but the worst attacks usually occurred at night. Occasionally, as the years went on, he became incapacitated for several days at a time.

The allergist found that the patient was most sensitive to cotton seed, eggs, milk and wheat. Mr. Mannering admitted there was no doubt that he often came into contact with eggs, milk and wheat at mealtime; but cotton seed—well, he knew the doctor was on the wrong trail there. He had never seen cotton seed except in exhibits. But the allergist knew the patient was in contact with cotton seed dust, for when he had made his inspection of the Mannering home he had taken a sample from the stuffing of the mattresses, and he had found fragmentary bits of cotton seed in the inferior grade of cotton that had been used in them.

It looked like a bit of foolishness to Patrick Mannering, but he did omit eggs, milk and wheat from his diet, and he slept on a mattress which the doctor recommended. The asthma was greatly improved. He had to admit it.

Since Mr. Mannering liked cheese, he came to the private conclusion that cheese was cheese, and for that matter, rye bread was rye bread. Adding these two items to the diet, soon he began to have more attacks of asthma. Meanwhile he decided all this dieting business was just plain foolishness to keep the doctors busy.

But the shoe was still on his own foot. He had not followed the doctor's instructions to the letter. He had been eating cheese made with cow's milk and a different sort of rye bread, made with about one-half wheat. When Mr. Mannering became impressed with the difference in foods he followed the doctor's instructions to the letter. He rarely has any trouble now unless he overeats of the foods to which he is less sensitive. It is possible to eat, with impunity, foods to which one is mildly allergic, if they are taken in small amounts and infrequently, not in combination with other foods to which one is mildly sensitive.

THERE is often a grain of truth in some superstitions. I was once told a severe stomach ache was certain to ensue if one ate milk and fish at the same meal. Since I had been doing so for

years, I derided the idea. Later, I found that there really are people who cannot eat certain combinations of food at the same meal without severe stomach and intestinal upsets. Such people are usually mildly sensitive to a group of foods which, when combined, may have sufficient allergens to produce such symptoms.

There is a tendency for families to be allergic; that is, they have a hereditary tendency toward allergy. Some babies are unable to drink cow's milk without showing severe symptoms of asthma or eczema, unless the milk has been denatured by prolonged boiling. The same babies may get along very well by drinking goat's milk without the formality of having it boiled. The difference is in the allergen. There is a chemical difference also in the various substances in the milk.

OFTEN the allergic individual is more sensitive to certain substances than chemical tests in the chemist's test tubes can show. While only a few grains of pollen may be required to cause an attack of hay fever, the chemist would be unable to detect the presence of pollen from the minute amounts that caused the attack. Pollen particles have a characteristic form, so the allergist catches them out of the air on greased microscope slides and identifies the microscopic particles in much smaller quantities than would be necessary even for a microchemical analysis.

A similar distressing condition in the allergy group is called angioneurotic edema, or giant urticaria. Hives, or urticaria, is usually caused by something which has been taken into the stomach. Individuals may become sensitized to the bacteria within their own intestinal tract. A severe attack of hives or a prolonged recurrence of them is extremely annoying and nerve-racking to the sufferer. The condition becomes dangerous when the giant type of hives develops in the throat, for it may cause suffocation.

Other distressing types of skin involvements are allergic eczema and contact dermatitis. An individual may have spots of eczema which occur intermittently or which persist in the same location; the latter condition is the more common. Foods and laxative drugs are the most common causes of this condition. Bacteria may play a part as invaders of the broken skin. Local applications of medicines do no good except to kill the bacteria. The eczema is cured only by the detection and removal of the cause.

The contact dermatitis, or inflammation of the skin, may also be an occupational dermatitis. In bakers who become sensitive to flour, dermatitis of the hands may develop to such a degree that they must change trades. Chemical workers may become abnormally sensitive to tiny amounts of chemical dusts and have dermatitis. A leather worker may become sensitive to leather dust and still not be sensitive to the green or untanned hides. In the same classification are the persons who have severe skin reactions to hair tonics or hair dyes.

These persons have an inherent difference, or idiosyncrasy, in their bodies that others do not have. It is not the fault of the substance with which they come in contact, but it is some fault in the sensitive person's body that causes skin troubles. For example, one person may be exceedingly sensitive to poison ivy, while another may not react to it at all. Persons thus sensitized will do well to change occupations.

Sometimes doctors have patients who are sensitive to drugs. Certain widely used drugs will cause severe dermatitis and may even cause death if their use is not stopped. Several of these drugs are contained in medicines which may be purchased without a doctor's prescription. Many widely advertised laxatives contain phenolphthalein, a common cause of typical skin eruptions that persist as long as the drug is taken.

Many persons suffer from headaches which have an allergic origin. Usually the cause is to be found in the digestive tract. The patient finds he is mildly sensitive to certain foods or the products of the digestion of such foods. When enough of the allergic poisons are accumulated in the system they become manifest by severe headaches. There may be nausea and vomiting. After the system has eliminated the poisonous substances, the headache leaves and the sufferer becomes normal once more.

THERE are medicines which will often relieve most of the manifestations of allergy, such as hives, asthma and hay fever. While they are not cures, they are valuable in helping the patient over the worst part of his symptoms. One of these drugs is an extract of the suprarenal gland and has a powerful effect both on the tiny arteries of the body and on the sympathetic nervous system. The action is rather short, but if it is properly used its effects are much appreciated by the sufferer. Another chemical substance is made from a Chinese shrub. Its action is more prolonged, and it may be taken by mouth. But even these drugs can cause disagreeable symptoms if taken unwisely.

If one is extremely nervous and is expecting to have an allergic attack, some excitement or disagreeable emotion may provoke this attack. Thus some persons may suffer from what seems to be nervous asthma or nervous hives or nervous headaches.

Allergy may be defined as an abnormal sensitivity which people have to any substance. These substances may range from horse dander to broccoli. Allergy tends to occur in families. No age is immune. Relief from the symptoms is brought about by the consistent avoidance of the offending substances or by desensitization to them by the administration of properly prepared extracts.

Balm at the Door

By

JAY G. SIGMUND

GEORGE JOSLIN'S medicine wagon rattled over the rutted river trail which branched off the ridge road from Arp's Crossing. There was every evidence that the hard rain of the day before had taken its usual toll of good soil from the hillside, for the limestone which underlaid all the land along the Wapsipinicon was exposed on each side of the road. The load of bottles in George's wagon was in peril unless he kept his bony team constantly in rein.

The next stop was at Morg Douglas' place. There was a collection for George to make there. On his previous trip the gaunt medicine pedler had left a bottle of "Dr. Woden's Magic Pain Killer" on trial. George remembered it had been extremely difficult to explain to Morg's faded, slattern wife how necessary it was to have such a remedy at hand.

There were five children in the Douglas household, and the salesman had talked long and earnestly about how children, especially, were subject to various kinds of sudden and dangerous pains and what magic was to be found in Dr. Woden's remedies, the pain killer in particular.

"I got no money," Mrs. Douglas had finally drawled.

Then George's real selling talk had begun. All the subtle technic he had learned three months before when he had attended the sales school at Dr. Woden's "laboratories," was brought into use. This was to be a "trial sale." All new salesmen of Dr. Woden's panaceas were instructed to get cash with the order, if possible, but if not, to leave the remedy on trial and allow the customer to use it down to a certain mark on the label. On the next trip the collection was to be made.

"They'll usually pay on the next trip," the sales manager had told the assembled medicine salesmen. "They always use the stuff up for one thing and another, for they don't have nothing else in the house and they use anything they have handy."

Thus far in his three months' experience as a vender of Dr. Woden's remedies, George had found this to be generally true. Now he remembered Mrs. Douglas' blank look, her crying children and her littered kitchen, and he wondered how his sales formula would succeed.

It was late in the afternoon, and the weather was sultry. The unmistakable feel of approaching rain was in the air. Off to the east a great black cloud was rising like a mass of dirty soapsuds.

George turned his team into the lane leading back to the rickety house which sheltered Morg Douglas and his family. The lane ran down such a steep slope that he had to apply his wagon brake to keep from going too fast. The rains had dug great ruts in the wheel tracks.

Stopping at the door, George saw that Mrs. Douglas was at home. He could see her as she bent over the kitchen stove preparing supper.

He knocked on the door jamb and the woman appeared, her listless pale face somewhat flushed at the point of the cheek bones from the heat of the kitchen. Strands of her matted flaxen hair, thin and snarled, hung over her sweaty forehead. She gave no sign of recognizing George, who got at once to the business at hand.

"Mrs. Douglas," began the pedler, "you remember I left a bottle of Dr. Woden's Magic Pain Killer on trial with you on my last trip. I'm sure you found the remedy very good, and I called today to collect the dollar for it and

IT HAD BEEN EXTREMELY DIFFICULT TO EXPLAIN TO MORG DOUGLAS' FADED, SLATTERN WIFE HOW NECESSARY IT WAS TO HAVE "DR. WODEN'S MAGIC PAIN KILLER" ALWAYS AT HAND.

see if perhaps I couldn't leave some of our other remedies or extracts."

A look which approached terror came over the woman's face. At first glance it would have seemed impossible to believe that any emotion could be portrayed on such a visage, but it was unmistakable.

George talked on. "We find at this time of year there are a great many summer ailments. Usually this is caused by drinking too much water. Especially the men folks have cramps and such. I suppose you've found the Pain Killer good."

The frightened look on Mrs. Douglas' face grew. Suddenly she blurted out: "I didn't use only a little of it, and I can't give it back."

Here was something for which George's salesmanship didn't provide. "What do you mean, Mrs. Douglas?" he asked, perplexed.

"I took one dose. I've been havin' terrible cramps lately. Day before yesterday, I think it was, I was drivin' out flies with a hazel brush, and I knocked the bottle down and broke it. I can't do nothin'."

There was an unmistakable tear in each of the woman's faded gray eyes. She wiped them away on her soiled apron.

A sudden clap of thunder sounded down the sky. A man's voice was heard outside shouting to his team. A raindrop or two splashed on the brim of George's battered hat.

"It looks like a storm comin'," suddenly thought George and then he remembered the creek at the foot of the hill. Many times he had seen it a roaring torrent. There was another clap of thunder and more raindrops. He had an idea.

"Mrs. Douglas, it looks like rain. It's about suppertime, too. Suppose you let me stay for supper, and if the storm gets worse I can stay overnight. That way you can pay for the broken bottle and then some."

The woman's colorless face brightened. "It's all right with me if it is with him."

George turned to go and met Morg Douglas on the path that led down to the battered swinging gate. The stooped and field stained farmer scratched his stubbly jowls and grinned as he

THE MOON WAS CLEARLY VISIBLE AS GEORGE AND THE DOCTOR TROTTED DOWN THE MUDDY ROAD.

took George's proffered hand. The hand he extended was cracked, calloused and begrimed, but the look on his face was one of good-natured friendliness.

"I was just talking to your wife . . ."

The farmer broke into a throaty chuckle. "She's kinda up agin' it. She broke the bottle you left. I was sorry, too. She's been about half sick, and she thought the one dose she took helped her."

George explained to the farmer his intentions of remaining for supper. The man was obviously relieved. He showed George where to put his bony team. "Pull your medicine wagon into the shed there. It's goin' to rain like thunder!" he called out as he unhitched his own span.

By the time the men had attended their beasts and started for the house the rain came down in torrents.

The meal in the Douglas' household would have tried the stomach of one not used to the food of river-road folk, but George ate the greasy side meat and fried eggs with gusto, for he was accustomed to such fare. The flies buzzed in swarms about the table, and the children fought, cried and dabbed their egg besmeared hands in one another's hair.

Outside the rain continued, unabated. Darkness came, and Mrs. Douglas groaned as she lit the smoking kerosene lamps.

"How you feelin' tonight, Lib?" asked Morg as his wife dragged her tired form past him.

"Awful," she answered as she slapped a child who climbed on the table.

The men went into the littered "front room." A rusty stove stood in one corner, and a rag carpet was on the floor. Cheap old prints and mottoes were on the stained, cracked wallpaper.

"Still it rains," growled Morg as he filled his cob pipe. "It's tough for farmers this year. Wish I had your job."

"Wish you did and I was back on a farm again," said George as he puffed at his briar, a look of longing on his lean face.

"Goin' to bed, Lib?" Morg called after his wife as she climbed the stair, a lighted lamp in one hand and a sleeping child on one arm.

"Yes," came the woman's response. It was half a groan.

"She's feelin' bad," explained Morg.

After an hour of visiting, the farmer yawningly suggested they retire, and he showed his guest a disheveled bed in a bare, hot room under the sloping roof. The medicine pedler threw off his trousers, stretched himself out and was soon asleep.

Suddenly awakened, George thought the roaring of the thunder had roused him from his sleep. He lay for a moment, listening. The unmistakable sound of a groan came to his ears. In a moment it came again, and then he heard a pounding on his door.

"It's the woman," said Morg Douglas hoarsely. "She's awful sick!"

George hurried into his trousers. Across the hall the farmer stood in the doorway of a bedroom, fully dressed, his face pale through its stubble of beard. "She's in awful pain. Get somethin' from your wagon, quick," begged the terrified husband.

George hurried to the barn. By the light of the flickering lantern which he carried, he took two cartons and a smaller package from his wagon and hurried back to the house. The rain still came steadily.

By the groaning woman's bedside the medicine pedler mixed a potion in a half glass of water. The patient coughed and choked as she swallowed it. Her eyes were strangely bright, and her cheeks, so colorless before, were flushed.

Morg Douglas stood impotently in the doorway. Once George asked him to bring water. Then he inquired whether there was a telephone in the house. The farmer shook his head. "Can't afford one," he muttered.

The woman tossed and groaned on the soiled bed. After a long time during which her groans became more intense, George gave her another

dose of the medicine from the bottle and a pink tablet from a small box. "They're both for pain," he explained.

The farmer nodded. "It's a good thing you're here."

But the woman did not stop her groaning. After a time a fit of chills seized her, and the bed shook as her teeth rattled in her sagging jaws.

By the light of the lamp, George scrutinized the woman's face. Then his own face blanched. "How far is it to Ontarns?" he asked suddenly.

"Four miles, but you can't cross the creek," answered Morg, guessing what was in the pedler's mind.

"I've got to get there. This stuff ain't doin' her any good, and her lips are gettin' blue," responded George. "You stay with her. My wagon's light, and I may be able to get across. I'll have to try. She'll die if I don't. Don't give her anything more."

The farmer nodded. George hurried to the barn. There he frantically harnessed the team and hitched them to the light medicine wagon.

At the bank of the roaring creek his bony team hesitated and then plunged in. For about 20 or 30 feet the horses walked, but the water came up higher and higher on their sides. George lashed them with his whip, but when they were about 15 feet from the opposite shore he saw that the beasts were about to be swept from their feet by the torrent.

Quick action was imperative. He could feel the light wagon being lifted from the gravelly bottom of the creek. Thoughts of the cargo of medicine surged through George's mind, but there was little time for thinking. He plunged from the seat and grasped the harness of one of the horses. With the other hand he unhooked the tugs as the animals dragged him through the water. The team lost their burden none too soon, for the stream was swifter near the shore. Both horses swam through the flood as the wagon careened, turned over and disappeared under the muddy torrent. In a moment George heard the shoes of his horses striking the gravel.

Safe on shore he threw the harness off both horses but left their bridles on. Riding one horse, he led the other and galloped toward Ontarns. The rain had ceased to fall. A new moon was tearing its way through the clouds.

It was a bedraggled specimen of a man who greeted Dr. Moorehouse excitedly as the sleepy physician answered the doorbell. But the doctor was not long in taking in the situation. He was used to such emergencies. In less than ten minutes he was galloping back beside George, astride one of the pedler's horses. As they rode, George told in a quavering voice of the loss of his medicine wagon. The doctor listened with an occasional grunt. At the bank of the creek they were relieved to see the flood had receded.

"That's the way with Buck Creek," growled the doctor. "Out of her banks when it rains and then back in a few minutes after it stops. It's the hills around here."

The stream was easily forded. Approaching the house they saw Morg Douglas standing at the door with a lamp in his hand. His only answer to the doctor's query was a whimpered, "Bad."

The doctor hurried to the sick woman's bed. Skilfully but gently he examined the groaning patient. After a moment's pause he mixed a draught from a small vial he had taken from his medicine case and drew out his hypodermic syringe. The woman looked at him with inquiring eyes as he plunged the tiny needle into her arm. He had already turned back her torn nightgown and examined the abdomen, but now his long, quick fingers again explored the region.

The groaning grew less. George and Morg Douglas stood expectantly in the door. The doctor looked up from the glass of medicine he was stirring and said, "Appendicitis. She'll be all right though, in spite of George's stuff. I'll make her comfortable until morning and then send the ambulance out. She'll have to be taken to the hospital and have the thing out in the morning. She'll be all right. Don't worry, Morg. We're getting it in plenty of time."

"Operation! But look at what I owe you now, Doc!"

The doctor put his hypodermic back in his case, pulling one side of his iron gray mustache as he did so. "Forget it! Never bothered you about it, did I? Your woman's got to live. I'll ride one of George's horses back, and he'll come with me. I'll be galled raw, I suppose."

The moon was clearly visible as George and the doctor trotted down the muddy road. For a long time both were silent. At last George spoke. His voice was pregnant with despair. "Gosh, Doc, I don't know what I'm goin' to do about that load of medicine. It's gone, and it ain't paid for, and I'm under bond."

The doctor chuckled. "Don't you worry," he said to the horseman at his side. "I was just thinkin' about that. I'll fix all that for you. I had some dealings with them birds when I was in the state legislature. If I'd had my way you wouldn't have had that load of stuff. I didn't get the bill through that I hoped to, so they're still at it; but they've got a pretty wholesome respect for me, and they'll listen. Don't you worry. I'll 'tend to them." He chuckled again.

For another mile they rode in silence. Then the doctor spoke. "George, you know my farm?"

"Yes."

"My tenant died. Do you 'spose I could talk you into going out there and running it for me?"

"I believe you might," said George, and then both men chuckled as the feet of the horses splashed through the rain soaked hill clay.

THE TRANSFERENCE NEUROSIS INCLUDES HYSTERIA, OBSESSION OR COMPULSIONS AND THE VARIOUS PHOBIAS OR FEARS, WHICH MAY TAKE THE COMMONPLACE FORM OF FEAR OF OPEN OR CLOSED PLACES.

JOSHUA H. LEINER

Presents a Discussion of

NERVOUSNESS: ITS CAUSES

"I DON'T know what the trouble is, Doctor—I guess it's my nerves." Thus does the "nervous" patient attempt to explain his disturbing physical and mental condition when he visits his physician.

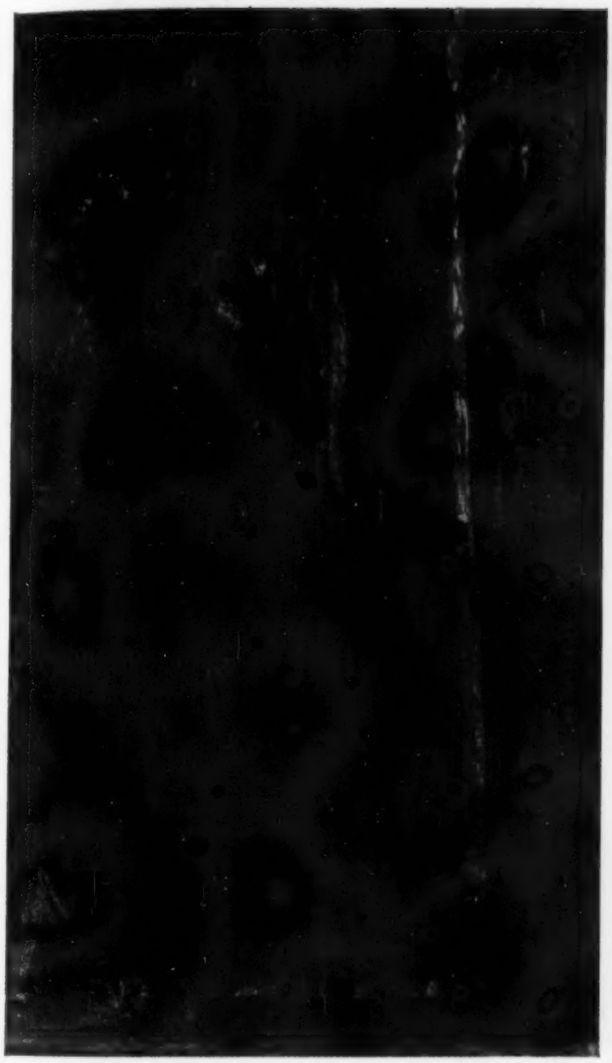
This so-called nervousness is no respecter of age. It may appear in childhood, during adolescence or in adulthood; but its symptoms take on a somewhat different form for each of these periods.

The nervous child is described by his parents as jumpy and fidgety, restless, unable to sit still at mealtime, finical about his food, supersensitive, and subject to crying spells, tantrums, night terrors and fainting spells.

Adolescents suffering from this condition become irritable, excitable and moody; they are given to daydreaming, are almost continually tired, and are unusually bashful and embarrassed, so that they often become asocial and suffer feelings of inferiority.

In adults, the symptoms include pressure pains in the head, choking, innumerable aches and pains throughout the body, attacks of shivering, belching or flushing, palpitation of the heart, crying spells, sleeplessness, and fears or phobias, such as fear of staying in the house or in any closed place and fear of streets and subway trains.

THIS all encompassing definition describes what seems to the patient to be nervousness; the neuropsychiatrist refers to these symptoms as a neurosis. Although the patient may have organic changes in his nervous system in addition to the symptoms enumerated, for the purposes of this discussion it will be assumed that the patient's condition is due to a functional or nervous state. While the symptoms enumerated by the patient usually comprise subjective sensations, either physical or mental, nevertheless hysteria, or conversion neurosis, may have objective signs such as loss of pain sense in response to a pin prick over various parts of the body, hysterical blindness, deafness and inability to walk.



and PREVENTION

The human being, while an individual biologic entity, is nevertheless an offspring who carries along from his forebears certain inherited endowments or traits. This does not necessarily mean that he or she inherits them directly from the parents; but certain defects may be transmitted from grandparents on both sides, or great-grandparents or even a great number of generations back on either side. These defects or inferiorities may affect organs such as the heart, lungs, internal glandular system, blood vessels or nervous systems, including the visceral nervous system, or they may show mental characteristics. In other words, all human beings differ biologically, mentally and emotionally. Organic inferiorities are associated with the staying power of tissues, manifested, for example, in the very early graying of the hair, early degeneration of the cardiac blood vessels, or kidney trouble.

ALTHOUGH one may become adjusted to surrounding conditions, any undue stress or strain often leads to a breakdown. In the domain of neuropsychiatry there is a large group of constitutional psychopaths. These individuals are apparently normal up to a point, but if pushed too hard in school or competitive work, they may develop a frank psychosis, as in the case of a 14 year old girl who progressed fairly well in her school work until she reached the ninth grade, when she became acutely confused. Such maladjustments can now be detected much earlier and better since the introduction of the Binet test for intellectual grading. It is impossible, however, to measure accurately the emotional mass in the school systems. The outside environment and social contacts must be taken into consideration.

ANY neurotic condition in the adolescent or adult usually began as a seed in early childhood. The individual must satisfy three main divisions if possible: himself, his family unit, and the society into which he must fit. Early physical handicaps must be considered in the child's behavior, as behavior is the index of his mental health. Parents should endeavor to create surroundings that will prevent the development of an egocentric or shut-in personality. This attitude often develops in crippled persons and in those who have early cardiac disease. Children who have suffered from encephalitis, skull injuries, mental disorders and the like present individual problems. Any unbalanced condition of internal gland secretions should be carefully investigated. A number of years ago, a group of school children showed a rather abrupt change in their physical and mental behavior. They became lazy, indifferent to food, constipated, and seemed tired and fretful. The teachers reported to the parents that the children had deteriorated in their school work. Close inquiry and investigation showed that while they looked well nourished, the children showed the symptoms of a slight thyroid disturbance. Two of the cases resulted from influenza. The administration of a thyroid preparation resulted in correction of the thyroid disturbance.

The importance of correct early training in childhood cannot be overemphasized. In early babyhood undue handling, carrying and catering to the youngster should be avoided. A demanding, emotional display on the part of the baby often gets satisfaction from the grandmother, aunts, mother and others. Under such conditions the infant is spoiled from the start. Adults must control their own emotional lives if they do not want children to suffer from lack of control. The first-born child and the only child show the greatest tendency toward psychoneurosis. The individual must be fit to live with others. Every one finds it difficult to get along with a selfish, arrogant, demanding person.

Early sleep training must be established; there must be no demand for lights to remain burning

in the bedroom, no repeated pleas for a glass of water, and no such admonitions as "Don't be afraid. I will be near you when you call me." The pernicious practice of letting the child sleep in the same bed or room with his parents should be avoided. This habit has led in some cases to the appearance of severe night terrors in young children. Eating habits should be developed along sensible lines of approach—a "take it or leave it" attitude. Undue coddling, solicitude or pampering will never make the child eat normally. If he cannot be managed, a summer at camp will help him to enjoy eating what is placed before him and to fit in with the other children.

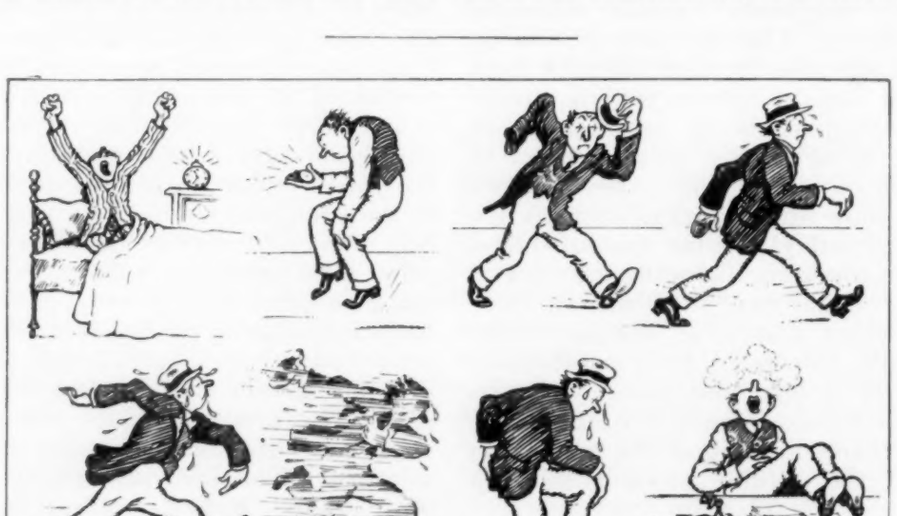
If the early training has been observed, then during the adolescent period of from 12 to 14 years, one will find nothing to worry over. John's voice is becoming gruffer; he begins to be more assertive, talks back to his parents, knows more than his father about any subject and demands his allowance. The modern high school girl usually tends to be silly and giggly, begins to "make eyes" at the male school teachers, criticizes the judgment of her parents, uses cosmetics too generously and becomes "boy-crazy."

WHAT shall the parents do about this? Shall they try to dominate the adolescent, giving all kinds of advice and commands? He is simply beginning to display his energies and strivings. Do not dominate the child's career but let him choose for himself. Bear in mind, however, the capacities and abilities of the child. Do not try to have John become a teacher or doctor if he shows an aptitude for mechanics, or make Mary a stenographer if she displays a talent for painting. They will not be happy.

In adults, neurosis is mainly due to the battle of the instinctive forces of life with the repressive forces of the personality and the forces of society. Mental health exists when there is a fine balance or sublimation; in the absence of this balance there is a host of displays of neurosis. The transference neurosis includes hysteria, obsession or compulsions and the various phobias or fears. They are often accompanied by severe anxiety, palpitation of the heart and dizziness; frequently the patient fears he is going to die. In the case of hysteria the patient converts his or her emotions into physical channels expressed in the body by paralysis, aches and pains of the inner organs. Obsessions usually have the most bizarre manifestations. One patient feels compelled to drink water. She is trying to reach a total of ninety glasses of water a day. She has been able to drink only forty and is therefore disappointed. Although she knows it is foolish, she is compelled to do this or she feels miserable. A psychoanalytic approach elucidates the conflicts from which this patient is suffering.

FEARS may take the commonplace form of fear of open or closed places, or an unusual attitude in which, for instance, a woman fears knives because she may kill her husband or children. Such symbolic neuroses likewise require a psychoanalytic approach. Why we become nervous in the first place is a question often asked. The answer is that as long as we are well physically and do not have to meet severe conflicts and frustrations in life, we can carry on comfortably; but if we do have conflicts to face we must compromise by various means of so-called sublimation and other mental adjustments.

From a practical point of view, parents should handle their emotional lives so as to train their children properly and eliminate the possibility of parental fixation. As individual human beings, children should learn to stand on their own feet, meet the reality of living fairly and squarely, and not resort to the mental mechanisms of a dream world to solve their problems.



■ FOODS IN HOT WEATHER ■

By

MARY C. BROWN

HEAVY INSULATION BETWEEN THE WALLS OF THE REFRIGERATOR PROMOTES EFFICIENCY.

■ ■ ■

WHEN the mercury soars, the housewife gives special thought to foods that are safe and palatable. Fresh berries plucked in early morning are served with cool rich cream and a sprinkling of sugar. Lettuce so crisp that it stands by itself, crisp golden carrots, endive, chicory, watercress from a cold spring or running brook, and the first green stalks of celery from the garden are served with French dressing. The juice from fresh cold oranges is served in a glass set in crushed ice. Cooked asparagus, tender and thoroughly chilled, is served with thick, cold mayonnaise. The fresh sweet taste of fine creamery butter is especially appreciated in hot weather. Custard is delightful served with fruits or with crisp cookies.

The flavor of good food served at a temperature pleasing to the tongue, the natural texture of that food at its best, and its color, enhanced by suitable glassware and garnishes, all contrive to induce hot, weary folk to eat food that is nourishing.

Many foods taste ever so much better in summertime if they are chilled to please the palate. Youthful visitors to a farm usually flatly refuse to drink milk as it comes from the cow. They much prefer the flavor and temperature of milk as it comes from the bottle in the refrigerator, cool and pleasant in odor and flavor.

An entire breakfast served lukewarm or hot may be left untouched, whereas the addition of something cool, such as a glass of grapefruit juice served in artistic surroundings, will nourish and refresh while supplying needed calories at the beginning of the day.

All these delicious cool foods require refrigeration for safety in storage between the time they are purchased in the market and the time that they are consumed. It is important also to buy foods that are wholesome, unbruised and uncontaminated. Foods displayed to the public are protected from dust and flies by glass or other protective material, and perishable foods such as cottage cheese are kept in display cases that are refrigerated by ice or cooling coils from an electric refrigerating system. The flavor of many foods is impaired in hot weather, spoilage starts quickly and the bacterial count is raised in a surprisingly short time. Bulk peanut butter becomes rancid in hot weather.

AFTER ONE HAS BOUGHT GOOD FOOD IT CANNOT BE EXPECTED TO REMAIN WHOLESOME UNLESS ADEQUATE REFRIGERATION IS PROVIDED. A GOOD REFRIGERATOR IS A YEAR-ROUND ECONOMY.

After one has bought good food from a good dealer it cannot be expected to remain wholesome if there is inadequate refrigeration in the home. A large refrigerator amply iced or correctly adjusted for accurate mechanical operation is the best economy throughout the year.

Even the best refrigerator has its limitations; it will not keep food in perfect condition for an indefinite length of time. Because of high pressure methods used in some refrigerator selling, women sometimes place undue confidence in a refrigerator by expecting it to keep foods from spoiling over longer periods than justifiable. Although a salesman tells of milk kept sweet for three weeks, daily purchase of such a product is wisest. The bacterial count in milk may increase considerably before the lactic acid content is sufficiently high so that the milk is pronounced sour. If a housewife is careful, she may effect some saving of current by running the refrigerator at a less cold temperature than is used on the sales floor for demonstration purposes.

It requires a larger amount of current to refrigerate a large amount than a small amount of food placed on the shelves, since there is no opportunity for the cold air to circulate properly between the dishes. The current consumption is increased when the freezing unit becomes covered with frost more than ¼ inch thick; the unit should then be defrosted.

More current is consumed if the family is allowed to eat between meals, to entertain guests without due concern for the family budget, to use ice cubes recklessly, to stand with the door open trying to decide what to eat, or to put hot or warm foods into the refrigerator.

MAINTAIN the refrigerator in a condition of 100 per cent cleanliness and order at all times. Watch for any foods that have begun to spoil, and wipe up anything that has spilled. Barring accidents and the necessity for defrosting, the refrigerator need not be cleaned, although the food supplies may be reorganized when necessary. In other words, if the refrigerator is already neat and clean, any desire for scrubbing the device should be curbed. Ordinarily, a tablespoonful of borax in a quart of water and a little smooth cleaning powder is much preferred to hot soap suds when the modern refrigerator needs attention. Trick devices simplify the cleaning of drain pipes. A permanent drain should carry water to the sewer.

Ice refrigerators, like other old-fashioned conveniences, have become modernized. The larger cabinets, which are similar to those of the electric refrigerators, have heavy insulation of high efficiency between the walls, so that they require

PRUNE AND PERSIMMON WHIP

1 cupful cooked prunes
3 large persimmons (about 1 cupful)
2 tablespoonfuls powdered sugar
⅛ teaspoonful salt
½ pint whipping cream
2 cupfuls sponge cake crumbs

Pit prunes, and mash to a pulp. Remove skin and seeds from persimmons; mash and combine with prunes, sugar and salt. Whip cream until thick. Whip fruit into cream, a small portion at a time. Add cake crumbs, and mix thoroughly. Pour into refrigerator pan, and place in freezing unit for three or four hours.

PINEAPPLE FREEZE

1 cupful dried apricots
2 cupfuls water
¼ cupful granulated sugar
4 slices pineapple
3 eggs
1 teaspoonful vanilla
Few grains salt

Wash apricots; add water, and boil gently forty minutes. When water is well absorbed, add sugar; beat to a pulp, and cool. Cut pineapple into small pieces. Beat eggs until light and creamy. Combine with apricots, pineapple, vanilla and salt, and blend thoroughly. Pour into refrigerator pan; place in freezing unit, and freeze.

PEACH ICE CREAM

1 cupful purée from cooked sweetened dried peaches
½ cupful whipping cream
2 eggs
3 tablespoonfuls of sugar
1 teaspoonful of vanilla

Whip cream until stiff. Whip eggs until thick and light; combine with other ingredients and fold in the whipped cream. If the trays should stick, a warm cloth wrung out of hot water, applied to the front of the trays, will usually loosen them, or the refrigerator may be turned off until they become loose.

re-icing only once or twice a week, depending on the weather. In order to compete with the electric devices, the manufacturers offer contrivances that perform identical tricks. There is an ice cube cutter consisting of a grid with a tank on top. Hot water put into the tank warms the device, causing the grid to sink into the ice and cut it in cubes. In order to freeze ice cream without stirring, an oblong box is available with an inner container for the mixture to be frozen. Ice and salt are packed around it. The device is more efficient than other closed molds or baking powder cans used for the same purpose in freezing mousses, frappés and parfaits. A third device is the electric ice cream freezer that plugs into an appliance outlet and relieves the small boy of the family of the chore of turning the crank of the ice cream freezer. The freezer is not expensive, and the current consumption is negligible.

THE new ice refrigerators are built so that a lower temperature will be maintained in the food storage compartment. A great deal has been said about refrigerator temperature, all of which is important. In the household refrigerator, where food is stored for only short periods, as compared to commercial cold storage, the temperature of the main portion of the refrigerator should be maintained at a point below 50 F. It may run somewhat higher on the top shelf and somewhat lower on the coldest shelf, where the cream and milk should be kept.

In addition to temperature, humidity should be considered. In the old-fashioned ice refrigerator, humidity was liable to be quite high, especially when combined with higher temperature; therefore foods spoiled rapidly. One fault to be found with the ordinary household mechanical refrigerator is that the humidity in the food storage compartment is too low, causing dehydration, particularly of such foods as sliced cheese or boiled ham. To prevent drying, these must be covered, but not so closely that the surface becomes moist and eventually moldy. Controlled conditions of humidity have been considered scientifically in the construction of the newest refrigerators.

AIR circulation is important. The chilled air naturally falls. One may find the coldest shelf or part of a shelf in the refrigerator by noting that position directly below the cooling unit or ice chamber. In some cases the chilled air is directed by baffles or flues; it is easy to see that these devices throw the cold air to the bottom of the refrigerator and direct it to every corner As soon as the air has fallen, it tends to become warm and to rise to the top of the cabinet. Here it is directed toward the ice chamber or cooling coils, to be chilled. If the freezing unit should be swung in the center of the open cabinet, with no baffles or partitions to direct the circulation, the air will circulate anyway. It falls directly below the unit, then rises on both sides, goes as high as possible and again becomes chilled. The path the air travels is important to the extent that the coldest space must be selected for uncooked meat and for milk and cream. Butter and eggs are next in the requirement of a low temperature, and then drinking water and beverages, jellied bouillon and meat broth, cooked gravy, cooked meat, cooked puddings, vegetables and left-overs, salad greens, raw vegetables, oranges and the like.

Odorous foods may be stored in the refrigerator when the air circulation and temperature are correct. They should be covered tightly and placed on the warmest shelf. The air, as it circulates, absorbs odors as well as moisture. It rids itself of both when it strikes the ice or the cold coils and falls, fresh, cold and odorless on the butter, cream and eggs. The shell of an egg is porous; hence eggs should be placed in a strategic position where they will not be exposed to the odor of "strong" food. *(Continued on page 707)*

RASPBERRY APRICOT ICE BOX CAKE

1 sponge cake
3 tablespoonfuls granulated gelatin
½ cupful cold water
2 cupfuls dried apricots
¾ cupful granulated sugar
1 cupful cooked raspberries
1 cupful raspberry juice

CUSTARD

2 cupfuls milk
2 eggs, separated
2 tablespoonfuls cold milk
⅓ cupful granulated sugar
¼ teaspoonful salt
1 teaspoonful lemon extract
1 cupful whipping cream

Soften gelatin in cold water. Boil apricots thirty minutes; add sugar; boil ten minutes; add one third of the softened gelatin, and beat to break up apricots. Boil raspberries with juice; add another third of the softened gelatin, and stir until dissolved; cool. Scald milk. Mix egg yolks with a little cold milk, sugar and salt, and stir into hot milk, stirring until custard coats the spoon. Add remaining third of gelatin, and remove from fire. Add lemon extract, and pour over stiffly beaten egg whites. When cold, combine with whipped cream. Line a bread pan with wax-paper. Line bottom and sides of pan with thin slices of cake. Add one third of the custard, then one half of the apricots, one-third custard, a thin layer of cake, all the raspberries, remaining one-third custard, then apricots and a final layer of cake on top. Allow to set overnight in refrigerator. Unmold, slice, and serve plain or with a garnish of whipped cream.

APRICOT MOUSSE

1 cupful purée from cooked dried apricots
½ pint whipping cream
2 eggs
⅓ cupful sugar
½ teaspoonful vanilla
Few grains salt

Whip cream until stiff. Beat eggs until light and creamy; add sugar, and beat again. Mix apricots with eggs; add vanilla and salt, and blend with the cream. Pour into a refrigerator pan, and freeze.

A CASTLE

I'm building a castle
'Bout here in the sand.
It will take many days
'Cause it's all done by hand.

My little tin pail brings
The water for me—
To help make the castle
As strong as can be.

And while I am busy
I sit in the sun
So I'll be a strong king
When my castle is done.

—Frances G. Klan.

Why the Baby Has Eczema

By
DENNIS KELLY
and
MYRTLE MEYER ELDRED

Part IV

CATS MAY INITIATE OR INCREASE THE VIOLENCE OF ASTHMATIC ATTACKS OR MAY AGGRAVATE A RASH WHEN IN CONTACT WITH THE CHILD'S SKIN.

MOTHERS are naturally confused by the seeming irrationality of the causes of eczema. A mother may readily accept the idea that her child can be made ill by the eating of eggs or milk, because the evidences are obvious; but it does place some burden on her to be asked to believe that along with these obvious internal causes goes an army of external ones, such as wool, silk, feathers, powders, cats and chickens. Their relationship to the causes of eczema that we have discussed in previous articles may not be apparent at first glance.

Wool is one of those fabrics which is constantly associated with infant wearing apparel. However fine and smooth wool appears to be to the touch, under the microscope tiny, brittle, upstanding fibers will appear. While many persons can wear wool with impunity the child or adult with a delicate skin may be greatly irritated by it. In spite of this knowledge, however, the figure of the wool clothed infant has become traditional. No infant or child who shows any tendency toward the development of a food rash should be subjected to the added irritation of woolen clothing, for wool is an animal protein product. One of the first steps in the program of recovery is to substitute cotton for woolen garments.

Soaps may also irritate a sensitive skin. A soap which leaves the skin taut, shiny and red does not agree with it. The choice of soap for baby's skin should be made from among those soaps which in the main agree with most babies. The mother's partiality for some medicinal or perfumed brand of soap should not influence her choice of soap for her infant.

Rashes, so like eczema as to be difficult of differentiation, may result from infections by vegetable parasites. These tend to clear up rapidly when treated with salves or ointments designed to kill the growing plantlike organism. Eczema, while of different origin, is not infrequently complicated by such an infection, which greatly increases resistance to healing salves. It is considered a good routine practice to use an ointment on the skin which will end the infection and promote a more speedy healing of the eczematous rash.

Dirt and filth of all kinds, and especially those associated with such animal parasites as lice, may be responsible for eczema among infants whose care is a matter of parental indifference. Such cases cannot be expected to yield to ordinary curative measures until the child's whole body is put in a state of healthful cleanliness.

The allergic child possesses an itching skin. Because of this, there is an exaggerated tendency to scratch and rub it. This injury is relatively more severe because of the peculiar skin structure. It is important to the mother to recognize that through rubbing and scratching, the allergic child's skin may receive a local injury which, when combined with the previously discussed factors, may lead to eczema.

The hair and dandruff of horses, and the pelts and feathers of animals and fowls have at vari-

IF THE MOTHER SHAKES THE POWDER GENEROUSLY OVER THE FAT LITTLE BODY, A CLOUD OF POWDER REMAINS IN THE AIR FOR BABY TO INHALE.

ous times contributed to the discomfort of the allergic child. Cats, rabbits, chickens and ducks have been found to initiate or to increase the violence of asthmatic attacks or to aggravate a rash when in contact with the child's skin. Allergic individuals often show a marked revulsion toward certain animals and shrink from them or run away in fear. Some asthmatic adults cannot bear to have a cat in the room.

A SWIFT glance at this list of external irritants would make it seem a comparatively simple matter to remove the child from contact with them, but this is not easy. The fur of cats and bunnies appears in the wardrobes of adults and children in a dozen different guises. Upholstery materials, the stuffings of pillows or mattresses and the covering or decoration of the child's own toys are also to be considered as possible irritants. Time, patience and ingenuity are needed to determine the harmless and the harmful elements of the environmental features and how they may be separated.

Victims of hay fever are aware of the menace of various flowers or grass or plant pollens. These substances may enter the blood stream of the eczematous child by penetration of the nasal tissue after being inhaled. In that case they become irritating to the skin in the same way as do food substances circulating in the blood. When such pollens and often dust found in the home have been applied to the skin of allergic individuals by means of the scratch tests they have given definite evidence of their ability to irritate.

Powders, especially talcum powders, used after the baby's bath, are intimately associated with babyhood. After the mother shakes the powder generously over the fat little body, a cloud of powder remains in the air for baby to inhale. He may not wheeze noticeably because of this chance inhalation but may later show some sensitivity to such powder irritations. One persistent eczema sufferer whose rash cleared up quickly when he was brought to the hospital broke out repeatedly after every visit from his mother. When the face powder she used was analyzed and the baby was tested with it the source of his eczema was found.

Many face powders and dry shampoo powders contain orris root, which appears in all lists of external irritants. The baby's only contact with such powders may be on the hair or faces of persons with whom he is associated, but an immediate reaction indicates his extreme sensitivity to them.

Pyrethrum, a poisonous powder used to kill insects on plants and flowers, is another frequent offender. Children who play about bushes or plants sprayed with this powder may suffer definite reactions to this irritating agent.

THE child's chances for permanent recovery depend, first and foremost, on the discovery and recognition of the causes of his ailment. If milk is the cause of the rash, then the more speedily milk is eliminated from the diet or some other less irritating form of milk is substituted, the more quickly will the child respond to other curative measures. This principle applies no matter what the food. The system must first be freed from irritations before salves, lotions or sunbaths can complete the cure.

Age cannot be ignored as a significant factor in the child's recovery. As a rule, eczema develops during the first year. Even if nothing were done to help the baby, the longer he had the rash the greater would be the possibility that his body would erect its own defensive forces against it. Such a cure might be termed a spontaneous one, but it is not. It is the result of a slow, almost imperceptible, natural desensitization to the foods that have heretofore resulted in a rash.

In looking back over the steps leading up to the cure, the mother is often quite unconscious

of what particular thing she has done that helped the baby. Circumstances may have inspired a change of milk. Perhaps because the mother ceased her hopeless attempts to force milk, eggs or cereals on the child, the eczema disappeared. Boiled milk may have been introduced into the infant's diet, and the mother may be unaware that there was any connection between its inclusion and the child's freedom from the rash.

A temporary disappearance of the rash is not always indicative that one has found and removed the cause. One cannot say that the child is cured until sufficient time has elapsed to make this optimistic estimate valid.

While age contributes a greater ability to withstand food irritations, the increase in the variety of the older child's diet may add another complication. There is always the possibility that some new food may bring about a return of the rash. This should serve to warn the mother of an eczematous baby or child that new foods should be added to the diet in cautious rather than in generous amounts and that she must be on the alert for symptoms of distress.

As they develop, children are contending constantly with physical influences quite removed from diet. The teething period exerts some drain on the minerals of the system, and this temporary imbalance may aggravate an existing disposition toward the development of a rash. In fact so commonplace is this phenomenon that there has come to be what is known to the layman as a "teething rash." A cutting down of the diet and the inclusion of cod liver oil in larger quantities should offset this tendency and end the rash.

The upheaval of the whole glandular system, especially of the thyroid gland at the adolescent period, may again increase the sensitivity of the skin. Eruptions and skin rashes are a familiar occurrence at this time. The child who had eczema in infancy might be a victim at this particular period.

Seasonal influences must also be considered. The use of woolen clothes, furs and blankets may cause a flare up of a supposedly cured case of eczema in the winter. In summer there may be a corresponding cessation of the rash because of the disuse of these fabrics, an increase in sun and a limitation in diet.

The hopefulness of eczema is that the child tends to outgrow it. The hopeless aspects appear when existing sensitivities are so numerous as to subject the child to their deleterious influences more or less throughout life. In that case the rash of eczema may disappear, but the child becomes the victim of other forms of allergy.

[NOTE.—This is the concluding article in the series, "Why the Baby Has Eczema." The first article appeared in the May issue. These excerpts are taken from material for a book to be called "When the Baby Has Eczema."]

FOODS IN HOT WEATHER

(Continued from page 703)

Meat should not be washed or covered before being put into the refrigerator. Simply remove the paper wrapping and place the meat on an aluminum or nonrusting wire mat, to allow some air circulation on the under side; if this is not possible, the meat may be placed on a plate and turned over once a day, although it should not be kept in a raw state longer than a day. Ground meat spoils most readily. Cured meat keeps well, but mold will grow on the surface if it is too moist or covered too closely. Cooked meat keeps better than does raw meat, but too much reliance should not be placed on the cooking; refrigeration is tremendously important. Meat broth is the most favorable medium for the growth of bacteria, yeasts and molds; gelatin desserts spoil readily, and gravies or meat juices are subject to a most dangerous type of spoilage if they are not refrigerated, or if they are held too long.

Cooked potatoes spoil if they are kept warm and damp. To make fine potato salad, select potatoes with sufficiently low water content so that they may be boiled without becoming soggy. Turn them into a sieve or colander as soon as cooked, and let them cool completely. Then set the colander in the refrigerator until the potatoes are completely cold and ready to cut into cubes. Cook fresh eggs in water just below the boiling point until they are tender. Put them in cold water until chilled before removing the shell and cutting them for salad. Mayonnaise, celery, fresh chopped onion and celery seeds may also be needed in the salad with lettuce for garnish. When mixing with a fork, avoid mashing any of the ingredients.

It is not generally known that bread and cake keep well in the refrigerator. This information is particularly useful on days when the kitchen humidity is exceedingly high. The bread or cake should be wrapped in wax-paper or some similar protective covering. Mold will grow on the surface of the bread or cake if the humidity is too high, but the food will dry out if the humidity is too low. If the humidity cannot be controlled in the refrigerator, then use your own judgment as to covering each food. In some refrigerators, salt and crackers stay in better condition than in the kitchen cupboard.

The housewife should remember that if there is the slightest question about the wholesomeness of food, it is far wiser and more economical to discard it than to endanger the health of the family by attempting to use it.

IN 1928, MORRIS FRANK, WHO HAD BEEN BLIND FOR FOUR YEARS, WENT TO FORTUNATE FIELDS IN SWITZERLAND AND BROUGHT BACK BUDDY, HIS DOG GUIDE. HE HAS SINCE DEVOTED HIMSELF ENTHUSIASTICALLY TO HELPING OTHER BLIND PERSONS THROUGH THE FACILITIES OF THE SEEING EYE.

Trained Dogs Guide the Blind

By ROSE HENDERSON

MRS. HARRISON EUSTIS MOVED HER SHEPHERD DOGS FROM FORTUNATE FIELDS TO MORRISTOWN, N. J., WHERE WITH MORRIS FRANK SHE FOUNDED THE SEEING EYE, CONCENTRATING IN AMERICA THIS WORK OF EXPERIMENT AND SERVICE.

AT CROWDED STREET CROSSINGS THE DOG WATCHES THE TRAFFIC ALERTLY, AND ONLY WHEN THE WAY IS CLEAR DOES SHE VENTURE ACROSS.

WHILE the number of persons born blind has been decreased by better living conditions and medical care, blindness caused by accidents is on the increase, and the need for aiding the sightless has grown with the increasing complexity of the modern world. Every possible measure to overcome the mental and physical depression caused by this handicap is welcomed in order that blind persons may be enabled to make the best use of their remaining faculties. A unique school for helping the blind is the "Seeing Eye," located at a country estate near Morristown, N. J. Here dogs are trained to serve as guides for blind masters who in turn are taught how to use the dogs.

Founded in 1929 by Mrs. Harrison Eustis and Morris Frank, a blind man, this center of rehabilitation and research has sent out more than 100 guides for as many blind persons who have been made happy and independent through the remarkable ability and guardianship of their trained canine friends. The blind person's greatest difficulty is in getting from place to place safely and independently. This the dog guide enables him to do.

The physical and mental health of the blind is benefited by the exercise of walking outdoors and by the feeling of freedom and self reliance which the presence of the dog makes possible. Often a man or woman previously dependent may become self supporting. Friends and relatives are thereby relieved of much care and anxiety. The dog also makes friends for his blind master. It usually "means the beginning of a new life," according to one guide owner. The guide is a constant companion, devoted as only a dog can be to the welfare of an affectionate master.

German shepherds are the breed trained and used as guides. Females are preferable because they are gentle, more eager to please and less inclined than males to quarrel with other dogs. Each dog wears a leather harness around her chest and shoulders, and from this a stiff handle is extended to reach her master's hand, so that he can feel her every movement. The first thing she has learned is to obey. She has also learned to disobey if the occasion demands. Although the dog follows her master's directions of "left," "right" and "forward" she is continually on the lookout for danger, and she will not lead her charge where she thinks he may suffer harm. For example, if the master directs her toward an awning that is so low it will strike his head, she sits down to let him know that something is in the way. Then she detours around it, as she does around a pile of bricks or any other obstruction. At curbs and steps the

dog sits down close to the edges so that her master can find them readily with his foot or cane. At crowded street crossings the dog watches the traffic alertly, and only when the way is clear does she venture across. If a car comes toward her she slows up or stops, moving on when the way is again open.

Since a blind person usually has an adequate mental picture or map of the home town or community, all he needs is a guide to enable him to get about in this picture as he wishes. Many faithful dogs, not specially trained, have led their masters back and forth on one or two familiar routes, but only since the system of the Seeing Eye was evolved has a blind man been able to direct his dog anywhere he wants to go, over unfamiliar territory and around unexpected obstructions.

A letter from a man in Pennsylvania, written after he had had his dog fifteen months, indicates the amazing team work possible. His business is canvassing and operating candy machines that are located in mills and factories. He writes: "Gesa and I canvass about ten full squares a day, making from 300 to 350 calls. This involves the mastery of something like 1,500 stops daily, up and down, together with every conceivable variety of porches, stoops, side entrances, etc. In a day's work Gesa and I cover from 5 to 10 miles, depending on what part of the city our activities are confined to. This means a daily crossing of from forty to eighty main streets, as well as the intervening half streets and alleys. Five days of my week are taken up with canvassing when the weather permits; the sixth day is consumed by looking after thirty of my machines. These machines are scattered all over the city, in mills, factories, garages, office buildings, and so forth, on second floors, third floors, in basements, hallways, remote corners and what not, with every imaginable entrance and exit to be handled. On entering each building in which I have a location, I give Gesa the necessary commands,

THE DOG GUIDE HELPS HIS MASTER OVERCOME HIS GREATEST DIFFICULTY, THAT OF GETTING ABOUT SAFELY AND INDEPENDENTLY.

HERE DOGS ARE TRAINED TO SERVE AS GUIDES FOR BLIND MASTERS WHO IN TURN ARE TAUGHT HOW TO USE THE DOGS.

and she leads me to the machine. Her custom is to stop in such a position that I can reach out and lay my hand on the machine. The routes I have mapped out cover about 10 miles each, and take me from six to seven hours to complete. On our trips we go through narrow and rough alleys, up rickety stairways, over trolley tracks and railroads, across the busiest thoroughfares and boulevards."

The work could not possibly be done without a guide, this man explains, and he could not afford a human guide. "No words could possibly express the value of Gesa to me," he declares.

Similar letters keep coming from others who have bought dogs at the Seeing Eye. A young man was enabled to go through college, taking part in practically every activity that his schoolmates enjoyed, with the exception of athletics. From the blackness of despair and loneliness the blind person is led to an interested, normal life through the intelligent and devoted service of the dog guide. Blind masters at the Seeing Eye are taught how to care for their dogs, how to treat minor ailments and when to call a veterinarian.

The dog's companionship alone means a great deal to the owner. One man says, "I felt as though I had been drowning and now had a life preserver, with dry land in sight. I got my nerves settled, walked off twenty pounds of surplus flesh, made friends and acquaintances by the hundreds. Through Hebe's devotion I learned not to be bitter at life, no matter what happens. At night she sleeps by my bedside, and if I happen to turn over I feel her big head peep up to see that all is well."

A frail little woman from California came to Morristown with her physical and mental health greatly impaired because of her tragic loss of eyesight. Soon after she got her dog her health improved in every way. She was so grateful and enthusiastic that she went about lecturing before women's clubs and other organizations about the Seeing Eye and was the means of hav-

ing thirty-seven other blind persons in the various communities supplied with dog guides.

This work of dog-guide training got its start in America through a magazine article written by Mrs. Eustis in which she described what was being done in Germany by dogs that had been trained to guide the blind. For the past ten years she had been carrying on scientific experiments in the breeding of German shepherd dogs at Fortunate Fields, her estate above Vevey in Switzerland. Here she developed a patrol dog service for the Swiss state police, the Swiss customs and the Italian metropolitan police and for prisons in New York and Pennsylvania. She also developed the messenger dog service for the Swiss army and, most important of all, the service of guides for the blind.

Mr. Frank, who had been blind for four years, was at his home in Nashville, Tenn., when Mrs. Eustis' article was read to him by a friend. This was in 1928. He had attended Vanderbilt University and was devoting himself to problems of the blind. He at once got in touch with Mrs. Eustis and made the trip to Fortunate Fields where he secured Buddy, his dog guide, and was taught how to use her. Returning to America, he and Buddy made their way safely through the New York traffic. Buddy became his constant companion and has traveled more than 50,000 miles with him. Mr. Frank has since devoted himself enthusiastically to helping other blind persons through the Seeing Eye of which he is vice-president and Mrs. Eustis president.

Of the dogs she has done so much to develop, Mrs. Eustis says, "I want you to see the shepherd as I see him, as a Niagara of energy going to waste, as an intelligence waiting to be used intelligently, and as a public servant and useful citizen." Not long ago she moved her dogs from Fortunate Fields to Morristown, thus concentrating in America this fascinating unique work of experiment and service.

The greatest difficulty at the school is not in training the dogs but in securing adequate instructors. Every dog graduate must be efficient, and each blind master must be carefully taught to have absolute confidence in his dog. Instructors therefore have to understand dog psychology and possess the faculty of giving instruction to the dogs in a vital and effective way. Great tact and patience are required besides the ability to understand the point of view and limitations of the blind. Those who become head instructors must also be able to teach what they have learned. It takes from two to three years to develop a competent instructor and another two years to make a promising teacher into a head instructor.

The head of the research and scientific division of the Seeing Eye is Elliott S. Humphrey, a man with a gift for handling animals and a long and varied experience in animal breeding and training. At Fortunate Fields he made an extensive study of the German shepherd and built up a tabulation of blood lines according to physical and mental qualities, such as exists nowhere else in the world. Through years of selection the dogs have reached an average of 95 per cent "teachability," or training temperament. It takes about three months to develop the dog as a guide, and approximately one month to teach a master how to use his dog. The dog's training is started at the age of 14 months, and her term of service is about ten years.

The blind masters must also be carefully chosen, as experience has shown that not all blind people can adapt themselves to dog guides. It is estimated that between 10,000 and 12,000 blind persons in the United States would be immensely benefited if they could be supplied with dogs.

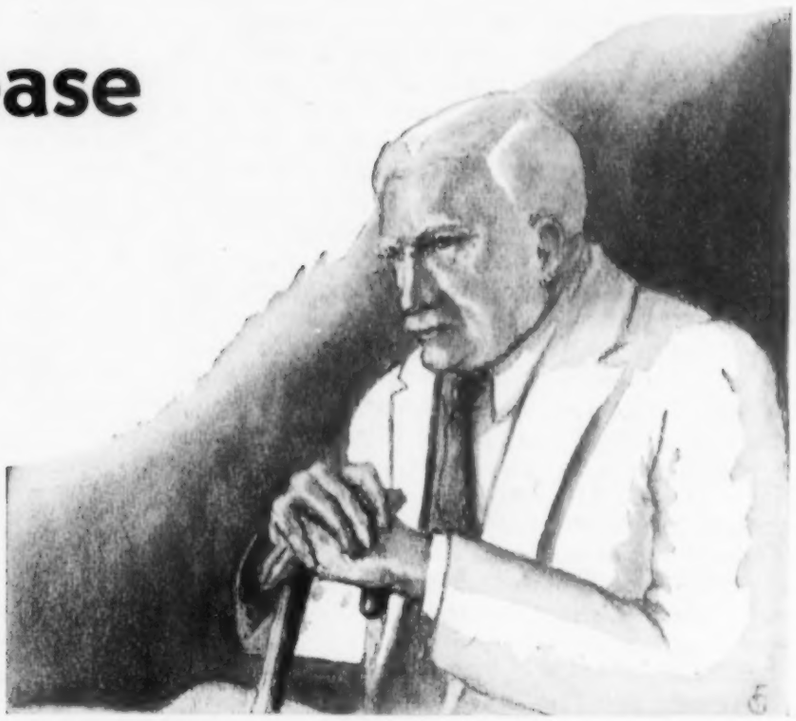
According to Willi Ebeling, secretary and executive vice-president of the Seeing Eye, formerly a breeder of German shepherds, this breed has no wolf blood. They are natural working animals, bred for centuries to tend sheep. Mr. Ebeling explains that while the instinct of a terrier or a sporting dog is to hunt, the instinct of shepherds is to protect and serve man and his possessions. These dogs have a good all-weather coat; they are intelligent and large and strong, without being clumsy or too costly to maintain. Because of these various qualities, the sheep-herding dogs make the best guides. Mr. Ebeling has general supervision of all the work in America, including the follow-up of dogs and their owners after they leave the school.

A director of a state institution for the blind says, "I have kept in close touch with the work done by each of the dogs at the institution, and in every instance she has done much more than serve as a pair of eyes for her master. I do not know of a single case in which the faithful use of a dog guide by her owner has not resulted in certain physical changes, changes of attitude and improvement of morale, which are striking."

A supervisor of the blind says, "Only today a gentleman remarked to me that the dogs must be worth their weight in gold to their sightless owners. The dog cannot possibly be measured by the financial yard stick. To say that a guide dog is worth her weight in gold is the same as saying that one's eyes are worth their weight in gold."

The Seeing Eye provides a dog, including the master's training and maintenance at school headquarters, for less than the actual cost to the school of supplying the dogs. Such a loss to the school nevertheless acts as a protection to the blind, as it eliminates the possible establishment of commercial schools which might seek to exploit the blind.

Heart Disease After Middle Age



By

LAURENCE E. HINES

GREAT advances have been made in the knowledge of heart disease since William Harvey of London published the results of his revolutionizing discovery on the circulation of the blood in 1628. As the years have rolled by, a great mass of facts has been accumulated to aid the medical profession in a better understanding of the causes and treatment of heart disease. With this knowledge the modern physician can with reasonable accuracy estimate the nature of the disease process in a patient's heart; he can tell what portion of the heart is chiefly involved and whether the muscle is diseased or whether the valves are competent; he can thus determine the causative factor.

The most common causes of heart disease are rheumatic fever or other infectious diseases, syphilis and arteriosclerosis. It is with arteriosclerotic heart disease that this article is concerned because it is the chief form of heart disease after middle age and the commonest cause of death between the ages of 40 and 70. It is also a factor of considerable importance in heart disease which may develop at about 30.

What is arteriosclerosis? In a broad sense it might be defined as the essential element in the process that makes people grow old. Some individuals acquire it in the prime of life while others may reach their hundredth year without being harmed by its effects. Arteriosclerosis is a degenerative disease of the blood vessels in which the cells in portions of the lining or walls have died and have been replaced by a bone-like deposit. It affects not only the large arteries but the tiny microscopic ones. Because it is a disease of the arteries and because the disease is responsible for signs of senility, such as graying hair, wrinkled skin and slowing of the mental faculties, there has arisen the trite saying "A man is as old as his arteries."

The degeneration in the arteries often causes narrowing. If the narrowing process is widespread throughout the body, high blood pressure may develop. If it is limited to the arteries of a certain part of the body, such as the brain, kidneys, limbs or heart, damage to that part will be the outstanding feature. Because of their vigorous life, men acquire arteriosclerosis more commonly than do women. Men of high strung temperament who are engaged in occupations which are run on a high tension, such as business executives and professional men, are commonly affected. The man who is engaged in excessive physical work is also a common victim.

The worker in the steel mill, the hard working farmer and the miner are among those who frequently succumb prematurely to the ravages of the aging process. Heredity, the excessive use of tobacco, overindulgence in alcohol, overeating, lead poisoning and repeated infections, all play some rôle in the development of arteriosclerosis. When the disease is intimately associated with high blood pressure the heart must perform more work; it becomes larger, and eventually is so fatigued that it fails to perform its tasks. This constitutes heart failure.

Arteriosclerosis may harm the heart in another way. The heart muscle receives its nourishment from small arteries called coronary arteries. If these tiny arteries become narrowed or blocked the heart muscle is malnourished and will soon fail to perform its

duties. This likewise results in heart failure. Occasionally a sudden plugging of one of the large coronary arteries may occur. When this happens, a large part of the heart muscle will quickly be rendered useless. This condition, which is known as coronary thrombosis or coronary occlusion, has been known to bring sudden death to men apparently in good health.

A study of the symptoms of arteriosclerotic heart disease reveals a varying picture. Some patients suffer pain, others have no pain; some have shortness of breath; some, asthma, and others, irregular heart action. Rarely does the patient go to a physician until the exhaustion of his heart muscle produces some distressing symptom. At the beginning a man will not admit to himself that his virility is impaired; he will continue to brag about his great strength when he is trying to hide the fact that his strength is not what it used to be. He refuses to attach any importance to a slight tightness in his chest on climbing stairs, or a feeling of breathlessness when he goes out into the cold air. Much wiser would he be if he reported these symptoms to his physician when they were first observed.

Knowing that the principal cause of death in the declining years is heart disease caused by this wearing disease of the arteries, every one is confronted with the important problem of prevention. What can we do to increase our life expectancy? How can we prevent degenerative changes in our arteries? For the most part the problem has not been solved. There are, however, many "things to do about it." We can live an orderly mental and physical life. We can avoid physical excesses, such as overeating, overdrinking, overwork and overworry. We can have careful periodic health examinations by our physicians, including a complete physical examination, blood pressure reading, urinalysis and occasionally an electrocardiogram and an x-ray of the chest. Most important of all, when the meridian of life is reached we must be truthful with ourselves about our own physical capabilities.

HEALTHGRAMS ✣ from Articles in This Issue

¶Dancing is now endorsed by educators and physicians as a splendid physical education, a personality stabilizer and one of the most popular and recreative indoor sports of the nation. *See page 714*

¶The epidemic of "jake paralysis" in 1930 was one of the most tragic results of the great social experiment of national prohibition. *See page 738*

¶When the meridian of life is reached we must be truthful with ourselves about our own physical capabilities. *See page 711*

¶Diet must play an important part in any well rounded program aimed at the prevention of tooth and bone shortcomings. *See page 734*

¶Inflamed ears, if treated early enough, may be prevented from becoming abscessed. Do not neglect a painful or discharging ear. Have it examined as quickly as possible. *See page 682*

¶The cure for allergic conditions is almost invariably the removal of the offending substances. *See page 691*

¶In any kind of eye injury without perforation of the eyeball, a cold compress may be put on until the doctor arrives. *See page 731*

¶The home use of iodized salt is nationally important since such salt supplies iodine for the prevention of simple goiter, a common deficiency disease. *See page 722*

¶Many foods taste ever so much better in summertime if they are chilled to please the palate. *See page 701*

¶Any neurotic condition in the adolescent or adult usually began as a seed in early childhood. *See page 698*

¶It is estimated that between 10,000 and 12,000 blind persons in the United States would be immensely benefited if they could be supplied with dogs. *See page 708*

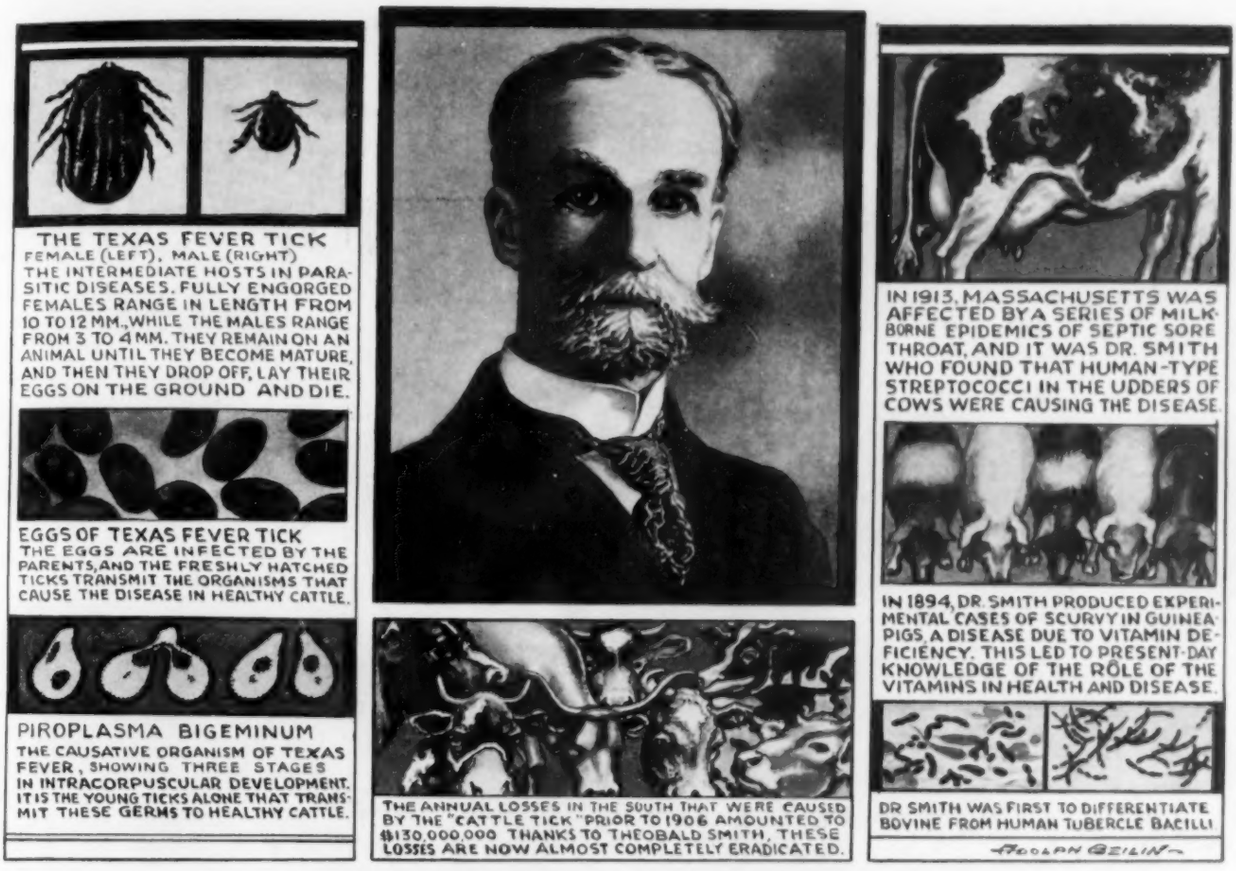
¶The hopefulness of eczema is that the child tends to outgrow it. *See page 705*

¶As science has advanced, many of the mysteries of apparently isolated diseases have been solved by the knowledge that most of the diseases that afflict animals are also common to the human family. *See page 684*

¶Blood does not make blood, and blood taken by mouth has practically no value for a person with anemia. *See page 688*

¶In the so-called backward countries of the tropics, where modern ways are impinging on the ancient customs of primitive man, civilization is still merely a thin veneer imposed on the solid structure of the beliefs and mores of native populations. *See page 719*

¶Most of the distressing foot troubles that bother adults could have been prevented by attention to the feet in childhood. *See page 742*


THE TEXAS FEVER TICK
FEMALE (LEFT), MALE (RIGHT)
THE INTERMEDIATE HOSTS IN PARASITIC DISEASES. FULLY ENGORGED FEMALES RANGE IN LENGTH FROM 10 TO 12 MM., WHILE THE MALES RANGE FROM 3 TO 4 MM. THEY REMAIN ON AN ANIMAL UNTIL THEY BECOME MATURE, AND THEN THEY DROP OFF, LAY THEIR EGGS ON THE GROUND AND DIE.
EGGS OF TEXAS FEVER TICK
THE EGGS ARE INFECTED BY THE PARENTS, AND THE FRESHLY HATCHED TICKS TRANSMIT THE ORGANISMS THAT CAUSE THE DISEASE IN HEALTHY CATTLE.
PIROPLASMA BIGEMINUM
THE CAUSATIVE ORGANISM OF TEXAS FEVER, SHOWING THREE STAGES IN INTRACORPUSCULAR DEVELOPMENT. IT IS THE YOUNG TICKS ALONE THAT TRANSMIT THESE GERMS TO HEALTHY CATTLE.
THE ANNUAL LOSSES IN THE SOUTH THAT WERE CAUSED BY THE "CATTLE TICK" PRIOR TO 1906 AMOUNTED TO $130,000,000 THANKS TO THEOBALD SMITH, THESE LOSSES ARE NOW ALMOST COMPLETELY ERADICATED.
IN 1913, MASSACHUSETTS WAS AFFECTED BY A SERIES OF MILK-BORNE EPIDEMICS OF SEPTIC SORE THROAT, AND IT WAS DR. SMITH WHO FOUND THAT HUMAN-TYPE STREPTOCOCCI IN THE UDDERS OF COWS WERE CAUSING THE DISEASE.
IN 1894, DR. SMITH PRODUCED EXPERIMENTAL CASES OF SCURVY IN GUINEA PIGS, A DISEASE DUE TO VITAMIN DEFICIENCY. THIS LED TO PRESENT-DAY KNOWLEDGE OF THE RÔLE OF THE VITAMINS IN HEALTH AND DISEASE.
DR SMITH WAS FIRST TO DIFFERENTIATE BOVINE FROM HUMAN TUBERCLE BACILLI
ADOLPH BEILIN

THEOBALD SMITH

(1859-1934)

A Great Servant of Humanity

By ADOLPH BEILIN

FEW MEN have labored so tirelessly and accomplished so much for the welfare of mankind as did Theobald Smith. The far-reaching consequences of his discovery of the rôle of the insect in parasitic and infectious diseases was in itself sufficient to place him in the front rank of his profession; but it must be added that any one of his many other achievements would also do credit to a lifetime spent in scientific research.

Theobald Smith was born in Albany, N. Y., July 31, 1859, and he lived until Dec. 10, 1934. His early schooling was obtained in Cornell University and at the Albany Medical College. Soon after the completion of his academic studies he was placed in charge of the pathologic laboratory in the Bureau of Animal Industry, Department of Agriculture, Washington, D. C. At the age of 27 he was appointed professor of bacteriology in Columbia University. When 37 years of age, he went to teach comparative pathology in Harvard University, a position which he held for many years while acting also as exchange professor in the University of Berlin.

Not only did Dr. Smith contribute to the whole range of medicine and the modern practice of immunization against numerous diseases by inoculation, but he blazed trails that others might build highways to health and the postponement of death. He left a path strewn with fundamental and invaluable discoveries.

To mention only a few of his numerous achievements, he was first to differentiate bovine from human tubercle bacilli; he concocted cultures of bacteria which, with slight modification, are utilized today to produce immunity against such diseases as typhoid, paratyphoid and cholera, and he aided in the fight against asthma, hay fever and scurvy.

Unassuming, modest and devoid of ostentation, Theobald Smith was one of "Nature's high priests" who, loving scientific truth, sought it for the welfare of humanity. He was a profound scholar, teacher, physician, inventor and scientist.

His high sensitivity, his intellectual vigor and understanding, and his broad, generous interests combined to make him a truly great servant of humanity.

WHAT SHOULD YOUR CHILD DANCE?

By LUCILE MARSH

Part I

THE DANCE IS A TIME HONORED MEDIUM OF EDUCATION. THE GREEKS USED IT TO DEVELOP STRENGTH AND BEAUTY IN THEIR YOUNG MEN AND MAIDENS, AND TODAY IT IS LAUDED AS A HEALTH BUILDING ACTIVITY.

CHILDREN LOVE TO DANCE OUT THEIR FAVORITE FAIRY TALES, AND WHILE THEY ARE THUS ENJOYING THEMSELVES, POSTURE, RHYTHM, GRACE AND EASE OF MOVEMENT ARE BEING ACQUIRED NATURALLY AND EASILY.

AMERICAN mothers approve of dancing lessons for their children. More than 1 million children are enrolled yearly in private dancing classes, according to the statistics gathered in a recent 12,000 mile survey that extended from New York to San Francisco and from Chicago to New Orleans. Leading private and public schools are also teaching the dance as a regular part of the educational curriculum. Dancing is now endorsed by educators and physicians as a splendid physical education, a personality stabilizer and one of the most popular and recreative indoor sports of the nation.

When Mary cannot or will not stand erect, dancing supplies the necessary "sugar coated" corrective to strengthen weak back muscles and make Mary want to look like the Winged Victory. When John shuffles his feet and pounds down stairs like a ton of brick, the dancing school tackles the problem with tested methods. Shy little Jane and self conscious Dick are put at ease and taught to be happy and socially at ease at a party.

It is no wonder that the dance is a time honored medium of education. The Greeks used it to develop strength and beauty in their young men and maidens. In medieval Europe the aristocrats employed dancing masters to teach them to carry themselves with the grace and dignity befitting their station. Even in the time of our own American great-great-grandmothers, dancing teachers conducted schools of dancing in which they passed down the morals as well as the manners of the race. Today the dance is incorporated in the school curriculum and is considered as important a part of a child's education as the proverbial "three R's."

THE question before mothers, therefore, is not whether the children should be sent to dancing class, already prescribed by leading educators as a thoroughly tested heritage of the ages. The problem is where, when and what type of dancing to give the children so they will derive the greatest benefits from this ancient educational medium. A verbatim report of a

typical mothers' discussion will help to bring out the real difficulty.

"The only type of dancing I give my children is ballroom dancing," declared one mother in response to a suggestion that she enroll her children in a new rhythmic class forming at school. "After all," she continued, "I don't want them to be professional dancers. The ballroom dancing is the only kind they will ever really use in life."

"Well, I'm giving Nell the rhythmic class," spoke up another mother, "because the dancing teacher said any child could pick up social dancing if he had good instruction in the fundamentals of dancing as an art. In fact, she said a child has to be taught to move rhythmically and gracefully before she can ever do any steps with distinction."

"That's why I decided to send Peggy to a good ballet school," said a third. "After all, the ballet is the foundation of every type of dancing."

"But my doctor won't let me give my children ballet dancing," broke in another mother in a horrified tone. "He says it turns out their toes and weakens their feet and ankles. He also says it strains their backs and makes them sway backed and big hipped."

"Well, John and Jenny have both gone wild about tap dancing, so I'm sending them over to the Stage and Screen Studios. I declare, they do nothing but practice routines for the school shows," said a happy-go-lucky mother who refused to be serious.

"Well, my child is too young to be put into that Broadway atmosphere. In fact, I'm very much against encouraging children to get stage struck the way professional schools encourage them to do," said a quiet cultured woman.

"Then send her with my children to the Studio of the Modern Dance. It has a very artistic atmosphere. They wear long black dresses and dance the most serious subjects to the accompaniment of drum beats and gongs. It's really all very modernistic and different."

"Yes, I've seen that class, but I want my girls to be taught grace," spoke up Nell's mother. "They have enough angles as it is. I don't want them to look like cubistic paintings."

"But my dear, all art is tending that way, and we can't be old-fashioned," countered the very modern mother.

"Well, I declare," interrupted a mother of four who was also one of the town's most successful business women, "isn't there some way of really finding out what type of dancing our children should have? After all, when I buy food I don't take the grocer's advice on what I should feed my children. I find out for myself from reliable scientific sources. Can't we mothers get together and investigate this matter so that we won't be at the mercy of every dancing teacher's sales talk? After all, they can't all be the best!"

THIS, of course, is the only sane attitude to take toward any subject that affects a child's welfare. It is especially necessary in the dance because the field is broken up into so many different schools, methods and cults.

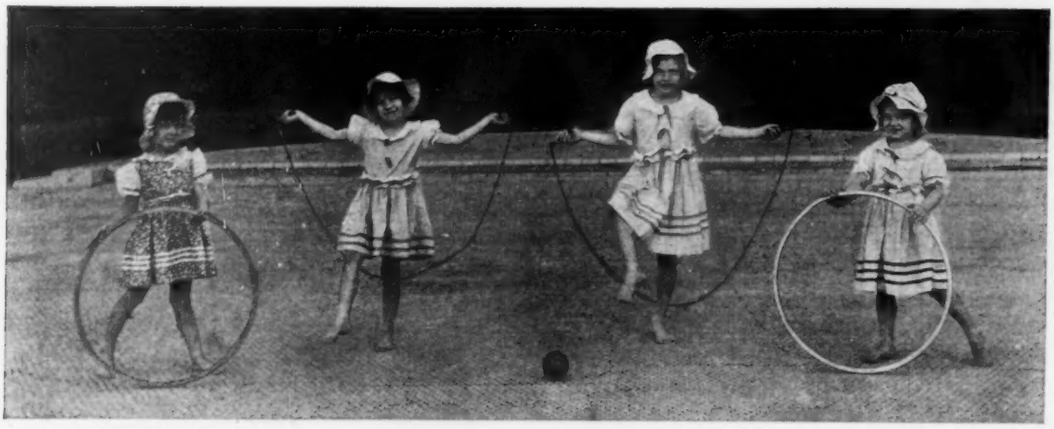
When a mother decides to give her children music lessons the main problem is to choose a good teacher. Music is taught with little or no discussion as to whether the child will study

GRADING SYSTEM

Approved by the American Dancer Institute

	Age	Natural Movements, Rhythm, Creative Projects	Acrobatic Movements	Folk Forms of Every Nation	Historical, Social, and Court Dances	Modern Social Dancing	Tap and Step	Repertoire	Ballet	Toe	Historical Research, Creative Projects	Individual Systems	Theory and Esthetics	Teaching of Dancing
Nursery.....	2-4	x	x											
Kindergarten....	5	x	x	Singing games										
First grade.....	6	x	x	x										
Second grade....	7	x	x	x										
Third grade.....	8	x	x	Folk dances										
Fourth grade...	9	x	x	x	x									
Fifth grade.....	10	x	x	x	x	x								
Sixth grade.....	11	x	x	x	x	x								
Junior high 1....	12	x	Group tumbling	National dances	x	x	x							
Junior high 2....	13	x	x	x	x	x	x							
Senior high 1....	14	x	x	x	x	x	x	x						
Senior high 2....	15	x	x	x	x		Musical comedy	x						
Senior high 3....	16	x	x	Spanish	x		x	x	x					
Senior high 4....	17	x	x	East Indian				x	x	x				
College 1.....	18		Adagio	Oriental				x		Classic ballets				
College 2.....	19			Hawaiian				x			x			
College 3.....	20							x			x	x		
College 4.....	21							x			x	x	x	x
Grad. school....	22							x					x	x

A CAREFULLY PLANNED PROGRAM OF DANCE STUDY INSURES THE CHILD A GRADED PROGRESSION.



YOUNG CHILDREN SHOULD HAVE NATURAL OR RHYTHMIC DANCING, WITH EMPHASIS ON THEIR JOYOUS, RHYTHMIC RESPONSE IN SUCH NATURAL MOVEMENTS AS RUNNING, SKIPPING AND WALKING.

Chopin, folk music, French or modern music. How different is the situation in the dance! Every teacher seems to have a different name for her particular brand of dancing, such as ballet, esthetic, Duncan, eurhythmics, Spanish, tap, musical comedy, Greek, acrobatic, ballroom, toe, folk, modern, rhythmic and many other varieties. Each teacher claims superiority for her specialty with the most amazing but persuasive arguments. Mothers are left wondering how every one could be the best.

While it is only natural for each teacher to believe in her own work, unfortunately her arguments are often prompted by commercial rather than professional interests. A sufficient number of scientific and noncommercial experiments have been made, however, to determine which type of dancing should be taught at various ages. It is no longer a debatable subject but one in which personal opinion must give way to facts collected through capable and impartial research.

Experts in the field have now worked out a program of dance study carefully correlated with the school program and the study of the other fine arts, music, sculpture, painting, poetry and drama. This plan fits the dance instruction to the interests, abilities and needs of the various ages of childhood and adolescence, and insures the child a graded progression. It will also give him the maximum physical benefits as well as the proper mental and emotional stimulus for each age. A type of dancing that may be highly beneficial at one age may be seriously detrimental at another; for example, ballet dancing. Other types of dancing, as tap dancing, for instance, may discourage small children and make them tense and awkward in their coordinations, while at a later date it will fascinate them and, at the same time, give them excellent rhythm, speed and accuracy in small foot movements. It is not sufficient to know what type of dancing our children should be taught. We must also be informed at which age they will get the most out of each particular form of dancing. The accompanying table will guide mothers in planning a progression of dance study for their children. Of course, it must be remembered that the grading system shown in the table is planned for the average child. Exceptional children brought up in artistic homes will always show a greater capacity for grasping and retaining instruction in the arts.

Art study should always be a joyous affair. Children should never be forced or drilled into an adult perfection. The love of the dance is the first lesson to be taught, and the joy of creative activity should always be stressed in every dancing lesson from preschool years through college.

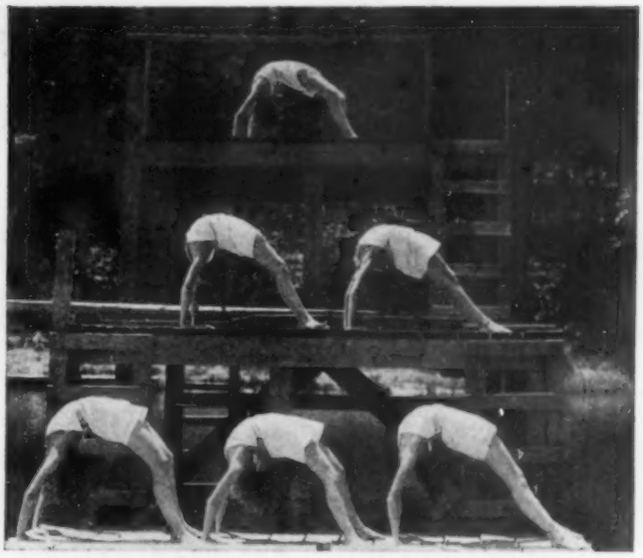
The all-round dancing teacher who knows her art from all its many facets of beauty is a better instructor for children than the specialist. She can give them the various types of dancing when and as they are needed without interrupting the continuity of this study. Save the famous specialist for later years when your child has the interest and ability to grasp the fine and difficult points of technic that only the specialist can give. This does not mean that mothers should be satisfied with anything but the best for their children. A poor teacher, no matter how reasonable the fee, is a waste of time and money and often spoils the student's interest in dancing for all time, to say nothing of giving him bad habits that will take years to correct.

One of the first questions mothers always ask in regard to dancing instruction is at what age a child should start dancing. If dancing is to help strengthen and beautify the body and give coordination and grace to movement, then the earlier the lessons start the better. Even the ancient Greeks realized that the normal child was ready for regular physical education at the age of 3 years. To allow children to spend the first six years of their lives making bad habits of movements which will take the next six years to correct is foolish indeed. By all means then, parents should plan to start their children in dancing classes before their fourth birthday. The class should be chosen with utmost care and the teacher with the greatest discretion.

Children at this age should have what is called natural or rhythmic dancing, with emphasis on their joyous, rhythmic response in such natural movements as running, skipping, walking and

the like. Singing games and simple folk dances are enjoyed at this age. Scarfs, balls, balloons and such properties delight the children. The dance costume should be a light little tunic over silk underwear, for much of the benefit of exercise is lost unless the air circulates freely on the skin. The feet should be bare, as they are the most restricted part of the body and often become weakened in later life because they do not get enough exercise in childhood.

At this point some mother always asks with anxiety in her voice, "Aren't you afraid such young children will catch cold dancing barefoot?" Children do not catch cold from bare feet any more than they do from bare hands. Of course the floor should be warm and the room properly ventilated without drafts. However, since there is danger involved in going out into the cold air with damp underclothes on, the child's clothing should be changed completely after the lesson. Children susceptible to colds can be given an alcohol or witch-hazel rub after class to insure the correct skin reaction to the change of temperature outside.



ALL LITTLE ANIMALS TUMBLE, TWIST AND SOMERSAULT IN THEIR PLAY. SO DO CHILDREN. SPONTANEOUS BACK BENDS, FORWARD AND BACKWARD ROLLS, CARTWHEELS AND HAND STANDS ARE ALL NATURAL, WHOLESOME AND STRENGTHENING PLAY. IF FORM AND RHYTHM ARE STRESSED AND THE STUNTS ARE SO ARRANGED AS TO BRING ALL MUSCLES INTO NATURAL COORDINATION AND EQUILIBRIUM, ACROBATIC DANCING CAN BE POPULAR AND EDUCATIONAL.

THE ideal dance class is conducted in a warm, sunny room with a smooth, absolutely clean floor. The class can last for forty-five minutes or one hour, but the periods of activity should be short and should not be strenuous. Young children have a short span of attention and must never be overstimulated or fatigued. The class should be happy and recreational in character. Neither mothers nor teachers should expect finished performances at a tender age. In fact, the foundation work done in the first few years is not spectacular; but if it is properly done it lays an infinitely valuable foundation for advanced forms of the dance as well as for a perfect posture and naturally graceful movement throughout life.

Classes for this work should be made up of children of practically the same age, 3, 4 and young 5 year olds. Under no consideration should this young group be put in with older children, as it immediately gives them a feeling of inferiority.

Besides having had a thorough training in all types of dancing under properly qualified masters, the teacher should be a cultured, well educated person of unassailed reputation to whom parents can trust the personality of their child. So often the dancing teacher becomes a sort of idol of the pupils. They copy her walk, her speech, even her facial expression and mannerisms. Be sure, then, that the dancing teacher is a worthy example for children to follow.

In addition to possessing the desired personal and artistic qualifications, the teacher should be well versed in child psychology and anatomy. She should know how to make the learning process easy and delightful. She should be able to interest the pupils sufficiently in the work to make them want to go to dancing class and remember to practice for each lesson. She should be sufficiently well versed in anatomy to correct posture faults and strengthen such conditions as weak ankles, relaxed abdomen, sway back and weak arches.

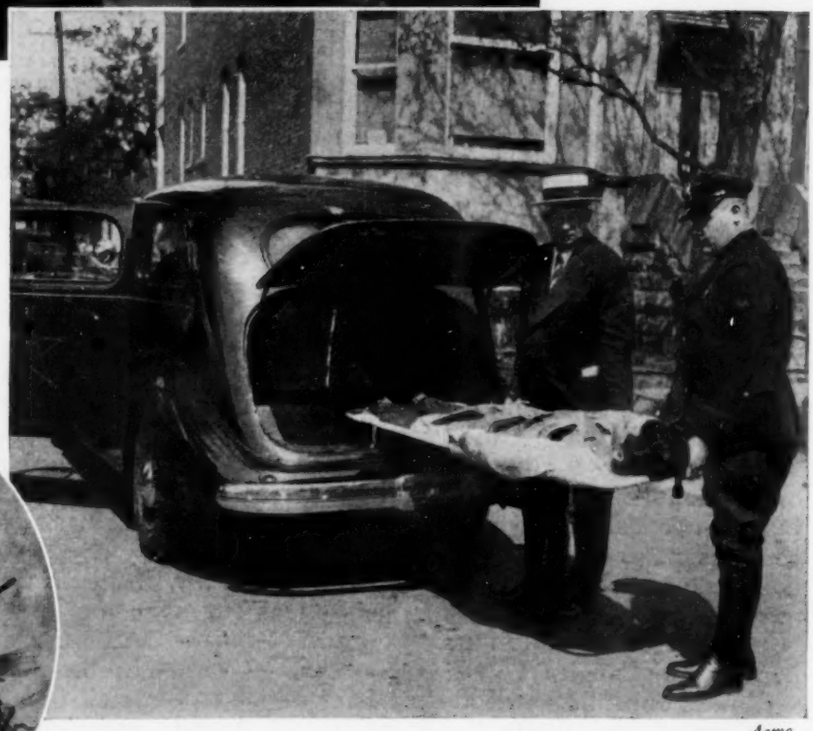
I can hear a mother's eager voice asking, "What about acrobatic dancing? Isn't it harmful to have the children bend back and throw themselves around the way they do?"

STRANGELY enough, acrobatic movements to some extent classify as natural movements. All little animals tumble, twist and somersault in their play. So do children. Spontaneous back bends, forward and backward rolls, cartwheels and hand stands are all natural, wholesome and strengthening play. Children will try them anyway, so it is better to have a capable teacher tell them how to do various stunts correctly. The only danger in acrobatic work is that the teacher will take the attitude of a circus master instead of an educator and drill youngsters into difficult stunts which may strain and distort their delicate little bodies. Of course there should be no forced stretching or limbering, no endurance stunts and no "showing off." If form and rhythm are stressed and the stunts are so arranged as to bring all muscles into natural coordination and equilibrium, acrobatic dancing can be a popular and educational form of dancing. Here again, the teacher's credentials in child anatomy will be the greatest safeguard.

[NOTE.—In the September issue, Lucile Marsh will conclude her discussion of "What Should Your Child Dance?"]

FANCY WOOD WORK HAS ATTRACTED MANY BOYS FROM NEW YORK SETTLEMENTS WHO MIGHT OTHERWISE BE PLAYING IN THE TRAFFIC LADEN STREETS.

Ewing Galloway

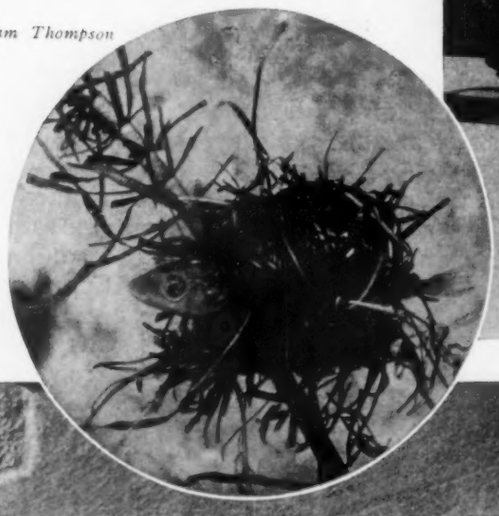


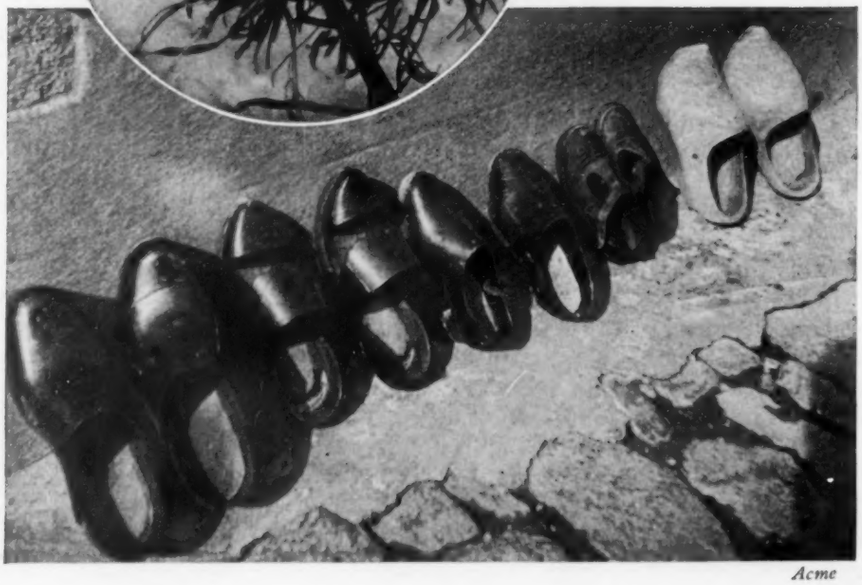
Acme

TO AVOID THE DELAY THAT OFTEN OCCURS BETWEEN THE ARRIVAL OF THE POLICE AND AN AMBULANCE ON THE SCENE OF AN AUTO ACCIDENT, SQUAD CARS FITTED AS AMBULANCES WILL IN THE FUTURE PATROL THE HIGHWAYS OF COOK COUNTY, ILLINOIS.

BENEATH THE BLUE WATERS OF THE DISTANT MEDITERRANEAN THE TINY FISH KNOWN AS THE EPINOCHE MAKES ITS SEA NEST.

William Thompson





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"THE FAMILY IS AT HOME AND VERY COMFORTABLE" IS THE MESSAGE OF THESE STURDY WOODEN SHOES OUTSIDE A HOME IN BRITTANY, FRANCE. SOFT SLIPPERS ARE USUALLY WORN INDOORS.

Primitive Medicine

By

RAYMOND B. COWLES

Part I

IN SO-CALLED BACKWARD COUNTRIES OF THE TROPICS, WHERE MODERN WAYS ARE IMPINGING ON THE ANCIENT CUSTOMS OF PRIMITIVE MAN, CIVILIZATION IS STILL MERELY A THIN VENEER IMPOSED ON THE SOLID STRUCTURE OF NATIVE BELIEF.

PRIMITIVE people cling to their old ideas and customs with a surprising tenacity and with results that are sometimes amusing. Not many years ago a huge Zulu brave walked up to a white man, who was noted for his willingness to help the natives, and described the symptoms of his malady in such vivid terms that a diagnosis of pneumonia could hardly be erroneous.

After estimating the dimensions of the chest and the resistance of the brown and toughened skin the white man made a mustard plaster of ample potency and weight. A pound or more of flour and copious quantities of mustard mixed to a paste was given to the patient with careful instructions as to application. He was then entrusted to his friends.

Two weeks later the giant native sauntered into the yard, hailed the white man and said that he had come to give thanks for the medicine.

His chief difficulty, he said, had been in understanding the directions. He had always believed that good medicine should go inside, not outside, so he had decided that the plaster must have been designed to strike at the pain from within. The white man's medicine was effective and had brought about a rapid cure. It had tasted badly, however, and had been hard indeed to get down at one try and keep down. He was fine now, he said, and owed a debt of thanks to his kind benefactor.

In some respects it is unfortunate that civilization has made its impression throughout the world and that the Zulus do not provide any exception to the general rule, for much of interest and value in primitive life has become obscured by the adoption of white men's ideas. Nevertheless in the so-called backward countries of the tropics, where modern ways are impinging on the ancient customs of primitive man, civilization is still merely a thin veneer imposed on the solid structure of the beliefs and mores of native populations. The natives exhibit a surprising degree of adherence to the ideas and culture of their ancestors. This is sometimes pleasing and sometimes unfortunate, depending on the point of view. In any case, it is this adherence to tradition which enables one to see the behavior resulting from the acceptance of the primitive ideas which form an integral part of their lives and control their destinies to some extent.

Tropical cities give little evidence of this primitive life. On landing at any of the principal ports of South Africa one is impressed by the strong resemblance to other seaports. The main difference is that those of South Africa are more attractive than the ports of older commercial countries. This is partly due to the natural scenery with which they are well endowed, to the climate and to the vegetation. It is also due to the difference in their industrial history. Even now they are not as burdened with manufacturing plants and the inevitable ugliness which seems to be consequent on modern industries.

It is not until one enters the country beyond the cities that the presence of primitive life is revealed. Probably the first evidence will come to light when the traveler finds himself, like Crusoe, staring at footprints in the dust. He will be surprised not only at the magnitude of the prints but at the fact that the tracks were obviously made by unshod feet.

AFTER seeing the footprints, a medical traveler may think of hookworm; and the regulation tourist, of the possibilities for a shoe factory. As a matter of fact, there is not a great deal of hookworm here; and in a country where inhabitants take off their shoes for all rough or wet going and wear them only for dress occa-

sions, there is not much prospect for profits in shoe manufacture. That there is not more hookworm is probably due to the fact that the sanitary arrangements are largely confined to hilltops where the ground is dry and the larval hookworms do not find a suitable environment. Lack of shoes, therefore, is not so serious as it might be.

Bare feet do necessitate some minor surgery, however. A splendid instrument is usually close at hand in the form of a safety pin, usually dangling from a perforated ear lobe of the native and thus functioning as a decoration while not in demand as a surgical instrument.

The omnipresent bane of the native traveler and worker is thorns. These vary in size from the small, insidious varieties resembling cactus fuzz to huge thorns that sprout from hawser sized vines often hidden under leaf mold. The hard, sharp thorns, which may be as large around as pencils and an inch or so in length, carry the unwieldy name of *umhluhlube;* that is, rooster spur. Some of the thorns are so hard and sharp as to be good substitutes for phonograph needles, and they are apt to punch through the skin and then break off. It is at such times that one can observe the safety pin technic of the Zulu. He sits down, hoists the damaged foot onto his knee and opens a crater-like depression about the site of the offending thorn. The tough welt of his sole is whitish, like crêpe rubber, and almost free from nerves. Through this welt, which is about one-third inch in thickness, he digs with a safety pin down into the tissues until the butt of the thorn is sufficiently exposed to allow a fair grasp with horny black finger nails. After removing the thorn the native marches on down the dusty path with no thought for the open wound and no thought of antiseptics to be used either then or later. That he rarely suffers any ill effects speaks well for the efficiency of the bodily defenses, whether immunity is acquired or is natural.

The practice of dentistry was no less crude until comparatively recent times. Before the advent of dentists' extraction forceps the victim of toothache was placed on the ground with his head firmly braced by a friend or relative, and the extractionist was invited to start work. The tools were simple. The operator advanced on his victim with no less an instrument than an ordinary 5 foot hunting spear.

Although the spear was sharpened for the operation the metal was so soft as to take little edge. Nevertheless, the victim was operated on by first splitting the gum. The next step was to get the spear point under the tooth. If this effort was successful, the operation was usually short, for whatever might be said against the instrument, its long shaft afforded good leverage, so that the offending tooth could be pried out. All too often the swollen gums made the work difficult, and after an hour or more of hacking and gouging, only the crumbling tooth fragments could be removed. The patient frequently found the ordeal impossibly painful and would decide that normal pain was preferable to further surgery. Infection sometimes occurred, and the lacerated jaws became so excruciatingly painful that in desperation the victim would again submit to the spear procedure.

THE NEGRO BABY IS ONE OF THE MOST ATTRACTIVE AND HUSKY YOUNGSTERS TO BE ENCOUNTERED ANYWHERE; BUT THOUGH THE ZULUS ARE FOND PARENTS, THEIR YOUNG TODDLERS ARE FREQUENTLY EXPOSED TO SERIOUS ACCIDENTS.

THE NATIVES EXHIBIT A SURPRISING ADHERENCE TO THE IDEAS OF THEIR ANCESTORS. THE 90 YEAR OLD ZULU GRANDMOTHER PICTURED BELOW ASCRIBES HER HEALTH TO THE AMULETS HUNG ABOUT HER NECK.

In addition to these examples of primitive surgery the natives have had many first aid customs, for that is about all that some of their treatments could be called. The white missionary, trader or doctor is usually called in only as a last resort, after the natives' methods have failed.

The Negro baby is one of the most attractive and husky youngsters to be encountered anywhere. Although the Zulus are fond parents,

the domestic arrangements are such that their young toddlers habitually suffer many accidents.

The most serious accidents occur when the babies crawl or tumble into the open fires that are built on the hut floor or topple backward into a pot of boiling corn-meal or other food. Since such accidents happen frequently any kindly European living in the isolated districts is apt to be called on for aid in treating the severe burns. The request for aid is usually made only after the native's own medicine men have failed, a situation which has its parallel in this country, where the trained doctor is often called on at the last minute to repair damages inflicted by certain types of bone manipulators and naturopaths.

The most common first aid device employed by the natives in the treatment of burns is a plaster made of clay and cow dung slapped into place wet and allowed to harden. The plaster is sometimes modified by the addition of soot scraped from the bottoms of household utensils; and when it is so modified, it may have some antiseptic properties owing to the creosote in the soot. The most disagreeable task of the white resident is, naturally, the removal of such a cast after it has been in place for a week or so and suppuration has continued uninterruptedly under the almost air-tight covering. Later stages of the treatment are not so offensive. That any child survives the plaster treatment can be attributed only to chance and the natural selection which has been in progress for many centuries.

ASIDE from accidents, the natives recognize only four main classes of illness: first, too much blood in the afflicted part of the body; second, *inyongo,* too much bile; third, *isimpetu,* a parasitic condition, often imagined but altogether too often actual, and fourth, illness due to witchcraft, which usually includes all other categories of sickness.

The logical remedy for a disease supposedly caused by too much blood is of course blood letting, or *casa.* In this treatment, incisions are made with a pocket knife, an old razor blade, a piece of broken glass or some flint. Sometimes an unskilful worker makes a transverse incision across a large blood vessel. Clumsy work of this kind may cause hemorrhage and may eventuate in death. Usually little immediate harm results from these treatments, since a man noted for his ability at blood letting is called in to do the work.

The most common affliction is attributed to *inyongo,* meaning too much bile in the system. The remedies for this sickness are exceedingly interesting. One remedy is composed of one or more herbs, collected either by a native "doctor" or the patient himself, and brewed and consumed at home. This brew is used only to cure biliousness. A great many herbs are used for the purpose of correcting this malaise. Some herbs are collected in the heat of the day and some only in the evening, when dew is on the foliage, and some can be used only if collected during the dead of night. If the herbs are collected at any time other than the right one, the natives maintain that the brew will be either dangerously strong or too weak. There is good reason to suspect, however, that the quantity of toxic elements actually varies in these plants, the variation being due to the season or to changes dependent on photosynthesis or other metabolic activities.

The curative effects of these substances are supposed to lie in a stimulation of the flow of bile followed by a strong emetic action to eliminate it. The emetic effect, at least, is potent and obvious. Some of the brews are vile tasting, with a vile odor, and either odor or taste should be sufficiently nauseating to bring about the desired reaction. Other brews are made from pleasantly aromatic plants with a somewhat pleasing taste.

Most of the brews are red, green or yellow, the result of pigments contained in the portions of the plant used as ingredients. Irrespective of color or taste, the quantity of the liquor consumed as a dose is enormous, and its potency is further enhanced by administering it luke warm. After the dose is taken, the patient is ordered out into the hot sunshine. He is made to bend over on all fours so that the sun may warm his back. Patience is urged until the first faint stirrings become evident. With the onslaught of the first symptoms, the patient is supposed to encourage the emetic's effect by a diligent application of a forefinger where it will do the most good. In case that does not succeed, he is supplied with a long feather for use if deeper ticklings are necessary.

WHEN the spasms have passed, the patient wipes the perspiration from his brow, stretches out on the ground and rests quietly for several minutes. After the immediate unhappiness has passed, the patient usually feels better than for some time preceding the treatment. Or he may decide that the brief agony endured out in the sun might have dimmed the memory of the comparatively mild discomfort that had preceded the treatment.

When internal parasites are to be attended to, the natives prefer the medicines of civilization. Only two strictly native cures are still in use at the present time. For the treatment of tapeworm, pumpkin seeds are used, and when these have failed, the Zulus make a vile concoction from a fern. A small dose of the slimy green fluid extracted from this plant seems to be satisfactory or at least effective enough to daunt additional trials.

(To be concluded)

A HOUSEWIFE LOOKS at

XXIII. Committee Acceptance of Iodized Salt

By DORIS W. McCRAY

SALT HAS maintained tremendous significance down through the centuries. Salt deposits greatly influenced the migrations of early tribes. Since animals were drawn instinctively to a salt lick or spring, food was plentiful there for man and, on many occasions, man and beast fought to the death for the precious salt that each needed.

The oldest historical reference to salt appears in the Old Testament in the Book of Job, which is said to have been written about 2250 B. C.: "Can nothing which is unsavory be eaten without salt?" Biblical references to the sacrificial uses of salt and its use in binding a covenant or an agreement are frequent. The Arabs have their saying, "There is salt between us," meaning loyalty, while the Persian expression "Untrue to salt" signifies ingratitude and disloyalty.

Roman soldiers under Caesar were provided with salt; this ration was called "salarium argentum," from which springs our English word "salary" and the common expression that a man is "not worth his salt." Fine, dependable persons are referred to as "the salt of the earth."

In English homes the salt cellar at one time marked the limit of the guests of higher rank, those of lesser degree being seated beyond it, a custom from which the common expression "below the salt" is derived. Hundreds of superstitions and religious beliefs have surrounded salt. Homer called it "divine," and Plato described it as a "substance valued by the gods."

According to history, salt has usually been either a government monopoly or the object of heavy taxation. Early American Indians would sell their lands for "the magic white sand." Salt has been used for currency, and it has been the principal medium of exchange in those inland African countries where it is not produced.

There has never been a direct tax on salt in this country. Modern manufacturing methods have brought it within reach of rich and poor alike. It has been estimated that the average person in the United States eats about 12 pounds of salt a year. An amount equivalent to 64 pounds per capita consumption is used in freezing ice cream, preserving foods, softening water, and manufacturing cheese, butter, chemicals and dyes. The home use of iodized table salt is nationally important since such salt supplies iodine for the prevention of simple goiter, a common nutritional deficiency disease.

The treatment of goiter is a medical problem entirely, and any person who has goiter should put himself under the constant, close observation of a competent physician, who will determine the type of goiter and the treatment to be used. It must be remembered that, although iodized salt may act as a preventive, it is not a cure.

The prevention of goiter is a public health measure; hence it has merited the attention of boards of public health, boards of education, local medical associations and researchers. The prevention of simple goiter can be accomplished by supplying every person with a sufficient amount of iodine. Various methods of supplying this additional iodine have been tried; the most practical and economical measure is the use of iodized salt, available at every grocery store.

THE subject of iodized salt, vitally important to the public, has been covered briefly in the following Committee decision, entitled "Iodized Salt, and Goiter an Iodine Deficiency Disease":

> Iodine is an essential chemical element for normal nutrition. Food and drink may inadequately supply this element and consequently an iodine deficiency disease—simple goiter—may develop. The prevention of goiter is conceived to be largely a nutritional problem depending upon the regular addition of a definite small quantity of an iodine compound, or an adequate quantity of an iodine rich food, to the diet inadequate in this element. A favorable practical method for dispensing the necessary additional food iodine to the public to supplement that naturally present in foods and drink is the fortification of table salt with a definite quantity of a suitable iodine compound.
>
> Although supplemental iodine supplied through salt or other special foods may prevent goiter that would otherwise occur or cure incipient cases, the simple administration of iodine in this manner is not a "cure all." The prevention of goiter is a matter of normal nutrition; the cure of goiter is a medical problem. All goiter cases should be under efficient medical supervision.
>
> An "accepted" iodized salt shall contain one part sodium or potassium iodide per 5,000 parts salt (approximately 160 parts iodine per million parts salt), or the iodine equivalent of any other suitable iodine compound. Iodized salt containing more than this quantity is considered a medicament not to be advertised to the public for table and cooking uses.

The common use of iodized salt in the home should be habitual. When giving a grocery order it is easy to say "salt" instead of "iodized

the COMMITTEE ON FOODS

salt"; yet that one word is enormously important in the nutrition of the family. School children, infants, and nursing or pregnant mothers need iodine especially. It is most essential that all nutritional needs of the growing baby be met adequately.

The State of Michigan recently concluded a six year campaign for the use of iodized salt. The incidence of goiter among school children was reduced from 70 to 17 per cent in three years. In the city of Midland, 11 out of 98 children not using iodized salt had goiters. Of 900 children who had used iodized salt for three years or more, 1 child had a goiter.

IODIZED salt has come into general use for supplying all salt needs, and its general use in this manner is recognized by the Committee on Foods. Various brands have merited the Seal of Acceptance. For acceptance by the Committee on Foods, it is required that salt shall comply with the definition and standard established by the U. S. Department of Agriculture. One may feel safe in buying an accepted brand of iodized salt for use in the home.

The amount of iodine in the tissues of the body is important, yet it is so small that it is expressed in terms of micrograms. A microgram is a millionth of a gram. The thyroid gland requires iodine in the largest amount. Other organs and tissues likewise contain some of the element. The blood contains from 10 to 12 micrograms per hundred cubic centimeters of blood. The amount of iodine may be so small as not to be detected. Precise analytical methods for measuring iodine content in the body have been developed only within the last few years.

The constant occurrence of iodine in the normal thyroid gland was discovered by Baumann in 1895. In 1915, Kandall isolated from sheep thyroids a crystalline material containing about 60 per cent of iodine, which he named thyroxin. Not all the iodine in the gland is in this form. The iodine in tissues other than the thyroid gland is in such small amounts as to be difficult to isolate.

THE thyroid gland exercises a regulatory effect on the basal metabolism and the rate of growth of the body. Simple or endemic goiter may be considered a mark of dietary deficiency. Regular feeding of iodized salt, beginning at birth, will prevent the occurrence of this disease.

Some interesting facts in the history of the prevention of goiter indicate how essential is an adequate diet to every human being.

Many years ago on the banks of the Rhone river were two villages, Fully and Saillon, which were separated only by a narrow arm of a

A LITTLE SALT MAKES AN AMAZING DIFFERENCE IN SUCH BLAND FOODS AS COOKED CEREAL OR POTATOES. IT BRINGS OUT THE NATURAL WHEAT OR VEGETABLE FLAVOR IN ITS TRUE GOODNESS.

mountain ridge. In Fully, goiter was universal and cretinism was common; but Saillon's inhabitants were absolutely free from these afflictions. Later the water supply of Saillon was changed so that a certain hot spring was no longer used. The population soon became subject to goiter. A subsequent analysis of the springs showed an iodine content.

In the northwestern part of the United States a condition of thyroid enlargement became common among domestic animals. Pigs were being born hairless with the thyroid glands also enlarged. The condition was corrected by feeding the pregnant animals small amounts of iodide to insure the normal birth of the young.

EXPERIMENTAL work in Akron, Ohio, as reported by the White House Committee on Child Development, showed that in a group of 2,190 girls who were taking doses of iodide, thyroid enlargement developed in 5, while in a group of 2,305 girls who did not take the dosage this condition developed in 445.

City water supplies have been medicated with iodides for the benefit of the entire municipal population. In Rochester, N. Y., twice a year, 16 pounds of sodium iodide was added to the water supply for each of twenty-one additions. As a result, each person received a much smaller amount annually than is usually considered necessary; nevertheless, there was a 50 per cent reduction in the number of visible goiters among school children. The cost to the city was approximately $3,000 a year, or roughly, 1 cent per person. The method is valuable in cities since it reaches the foreign population that cannot usually be reached in other ways.

Iodides, as chocolate coated tablets containing from 5 to 10 milligrams of sodium iodide, have been supplied by some communities for the school children, but this method does not reach preschool children and pregnant women, two extremely important groups.

Both methods mentioned are more expensive than the regular home use of iodized salt.

IT SHOULD be emphasized that there is definite danger in the administration of iodine in any form to persons who already have a goiter. Those who have any sort of abnormality of the thyroid gland should be advised to seek expert medical advice. Research, training and experience have enabled the modern physician to become successful in the treatment of both the simple or endemic goiter and the exophthalmic goiter, although these types differ from each other.

There are other methods of supplying iodine compounds to the population as a whole, although none are as practical as the widespread use of common iodized salt.

Some of these methods include fertilization of the soil on which the vegetables are grown. Those grown along the sea coast supply iodine. The iodine content of plants is largely dependent on the quantity of iodine found in the soil. Artificial fertilization of the soil with seaweed, guano, some phosphate rocks and particularly with Chilean saltpeter may greatly increase the iodine content of the soil and consequently of

THE HABITUAL HOME USE OF IODIZED TABLE SALT IS NATIONALLY IMPORTANT SINCE SUCH SALT SUPPLIES IODINE FOR PREVENTION OF SIMPLE GOITER, A NUTRITIONAL DEFICIENCY DISEASE.

the produce; but because of the additional expense incurred, it is difficult to market vegetables profitably under these conditions. The richest source of iodine in the world is Chilean saltpeter and the rock salt from the Strassfurt mines; neither of these products contains more than about 0.2 per cent of iodine as a maximum. Special feeding of cows to produce milk that furnishes iodine is possible, but it is comparatively expensive. The transporting of nuts, nut oils and butter from regions in which the soil is rich in iodine to markets in which these products are required is expensive and precarious.

Drinking water in sections around the Great Lakes and in certain regions of the West and Middle West contains low amounts of iodine. Waters of most of the Southern states and of a strip along the Atlantic seaboard have been found to contain more iodine. Large amounts are found in mineral waters and sometimes in deep wells; glacial waters have a low iodine content. The iodine content of drinking water is a measure of the iodine content of the soil and of the vegetables that are grown in the region.

It is interesting to note that minute traces of iodine exert important influence on the normal health and growth of the human body. The thyroid, pancreas and other endocrine organs influence body metabolism. Enough of the hormone of the thyroid gland is stored in the body of the infant to suffice for a period of three months after birth. The hormone of the thyroid gland directly affects the basal metabolism and therefore the food energy requirements of the body. The thyroid may affect the food energy requirements indirectly by its stimulating effect on growth and by its relation to the efficiency of muscular work.

A FOOD product was recently rejected by the Committee on Foods of the American Medical Association because of false claims made in the advertising matter. The ingredients, namely wheat embryo, dried vegetables and dried kelp, a seaweed, are not unusual or extraordinary. Kelp is high in iodine content; sufficient iodine may be obtained, however, from the ordinary mixed diet when iodized salt, everywhere available, is used. The claimed "minerals and vitamins" are readily obtainable from common market foods. The advertising of this food is of the type that is causing a growing public demand for federal legislation and for the control of advertising in the interest of public welfare. Smatterings of facts are intermingled with falsehood, giving the entire copy a semblance of truth. Names of well known authorities are inserted to give confidence. The material is pseudoscientific. The product possesses no more "magic of nature" than do common foods. The advertising is of the "patent medicine" quackery type, intended to give medical values to this food.

Brands of accepted iodized salt are not advertised in this manner. The statements are straightforward and informative, not deceptive. The Seal of Acceptance, together with a simple statement of the meaning of the seal, constitutes for the American housewife the strongest possible recommendation of the brands of salt.

If an unlimited number of foods contained added iodine or iodine compounds, there would be grave danger to the public health because of excessive iodine intake. In order to obviate the possibility of overdoses of iodine, the Committee has issued the following important decision, entitled "Fortification of Foods Other Than Table Salt with Iodine or Iodine Compounds":

> The fortification of foods other than table salt with iodine or iodine compounds for dispensing additional food iodine to the public and supplementing that naturally present in foods is unnecessary and may lead to excessive iodine intake and endanger public health. Foods so fortified, other than table salt, will not be eligible for acceptance.

The general policies of the Committee have important, far-reaching effects on iodized salt, as they have on every food; among these regulations is the policy requiring a declaration of the salt added to sieved vegetables for babies and invalids and that which requires that analytical statements shall be expressed in such terms as will enable correct technical and popular interpretation and be properly and truthfully informative.

Reports on accepted brands of iodized salts are carefully checked by members of the Committee before publication in *The Journal of the American Medical Association.* The following are typical claims of the manufacturer:

"The iodized salt is for all table and cooking uses of salt. The added calcium phosphate tends to preserve its free running qualities; the sodium bicarbonate (baking soda) tends to prevent the loss of iodine. The iodine in the salt aids in preventing goiter caused by insufficient iodine in the diet. Used daily as the only salt on the table and in cooking, it richly supplements the iodine of diets deficient in that element and thus helps to protect against goiter."

The submitted analysis lists sodium chloride, or common salt, as we know it, as 98.5 per cent; other minerals are added for the purpose of supplying iodine, preserving it and keeping the salt dry in damp weather. One common method of salt manufacture is described as follows:

"The product is obtained by evaporation of salt brine prepared from rock salt deposits in the earth. Water is pumped down to the salt deposits; the resultant brine is pumped to the surface, treated with lime and sodium carbonate and stored in tanks to permit insoluble matter to settle out. The brine is filtered and concentrated in 'vacuum' evaporators; the salt crystals drop to the bottom and *(Continued on page 760)*

THE MYSTERY of the BLUE-BLOODED LADY

Chapter III of THE DOCTOR'S SCOTLAND YARD

By Robert A. Kilduffe

"YOU KNOW," said Inspector Carey to me as we sat smoking together one evening, "Dr. Trebor can talk about disease in a very different way from any doctor I ever met. Not that I've met many, and I hope it will be a long time before they get to arguing over me. What I mean is, he makes disease a real thing and an interesting one too—to me, anyway."

"I'll say he does!" I answered. "I never really thought that he could make a story out of it the way he has."

"It makes me wonder why more doctors don't try to make their patients understand what it's all about," mused Carey. "They ought to be able to, and you'd think their patients would want to know."

"*We'd* think that now," I said. "But then we've learned a lot more than the average patient ever does, even in the few stories Trebor has told us so far. Perhaps that makes a difference; it makes us *want* to know more."

"Perhaps you're right," Carey agreed.

Just then Trebor came in. "Hello, everybody!" he greeted us. "Ready for the bedtime story?"

"I'll listen to your stories any time," answered Carey. "We were just talking about them before you arrived."

"Well," said Trebor with a smile, "I hope you let me down easy."

"We did not!" I answered. "On the contrary we blew you up to the skies, as the saying goes. Carey did, anyway, and I'll have to admit that I was inclined to agree with him. You see, you have evidently absorbed a lot of story-telling technic—from me," I added with mock modesty.

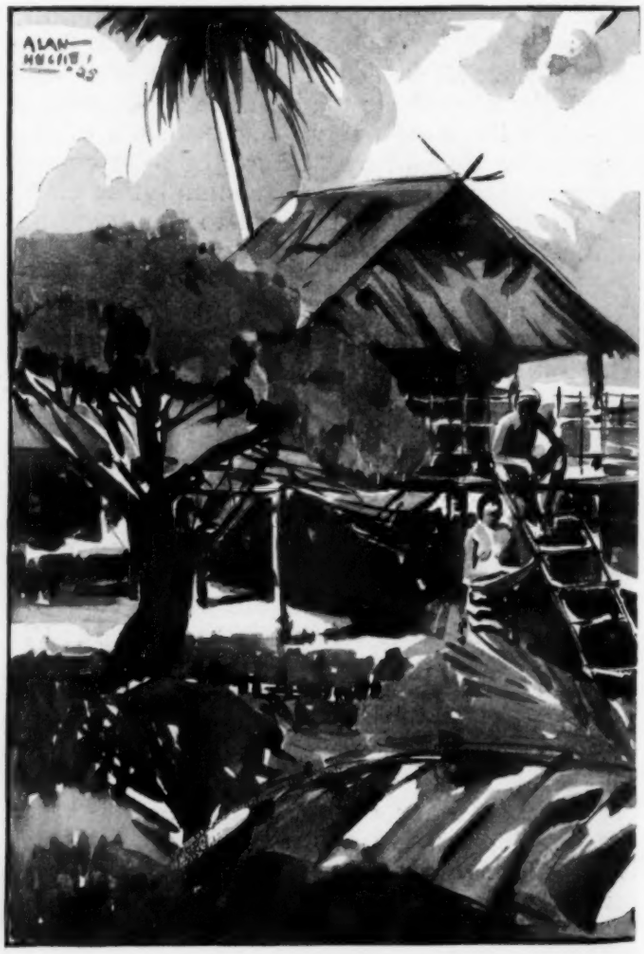
"Wherever he got it he's making a good job of it," said Carey holding his glass toward Trebor. "Here's hoping you keep it up, Doctor."

"A good audience is the story-teller's idea of heaven," laughed Trebor. "So you fellows must be angels, somewhat disguised, however," he added with a sly grin. "If that's the way you talk about me behind my back I think I'll take to listening behind doors."

"You had better not bring any one to listen with you," I said. "Carey was rather critical of your professional brethren a while ago."

"Hold on!" exclaimed Carey. "All I said was that I wondered why doctors did not talk more about disease to their patients; that is, make it interesting and understandable, as you do for us."

Trebor by this time was comfortably sprawled in his chair, had taken the first sip from his glass and was filling his pipe. After a little pause he looked up. "I have sometimes wondered about that too, Inspector," he said slowly. "You would think that a patient would want to know all he could about himself and that his doctor would be the one to tell him. But it is not as simple as it seems." He stopped to light his pipe, and then he continued, "You know, a doctor is often in a rather difficult position. I agree with you that he ought to be willing and able to explain things to the patient. Certainly, you'd expect a man to follow directions with more interest and more care if he understood their purpose. On the other hand you must remember that it's one thing to talk about disease or think of it in the abstract when the other fellow has it, and another entirely when you yourself have it."



"That's true," said Carey.

"So much misinformation is spread about disease," Trebor went on, "that it is rather a difficult matter to combat all of it, or even much of it. Of course, a patient wants to know. But that is only partly true. Every patient has three questions in his mind: What is the matter with me? Can it be cured and how long will that take? And what will it cost? It's true that he goes to his doctor for the answer, but unfortunately he doesn't have to believe the answers he receives. Usually he believes what he wants to believe."

"What do you mean, exactly?" I inquired.

"Suppose I give you an example. Suppose a doctor has to tell a patient that he has syphilis. If the doctor is honest and knows his business, he'll have to say that syphilis is a curable disease today but also that no one is able to say truthfully just when the cure has been accomplished. Definite statements cannot be made rashly about that; it is all a matter of probability.

"He'll have to say to the patient that after an initial period of not less than three years' treatment, he will have to have a periodic check up, at first every six months and then every year. For how long? The safest answer is, indefinitely. The longer the patient goes without any symptoms and the longer his blood tests remain negative, the greater becomes the probability that he has been cured.

"Now, suppose the patient doesn't like such a prospect and goes to another doctor either not so well informed on syphilis or not so honest, for I must admit that there are black sheep among doctors just as there are in any group. Suppose this new doctor tells him that he can be cured in a relatively short time after so many 'shots' or injections. Which doctor do you suppose he'll want to believe and will believe?"

"I see your point," replied Carey. "Still, if some one had really explained syphilis to him, wouldn't he have been better prepared to believe what the first man told him?"

"Of course he would!" agreed Trebor. "That's why we doctors have been so much interested in the education of the public regarding disease and why we spend so much time trying to teach them how to prevent it. That's why the American Medical Association sponsors a magazine for the education of the public in matters concerning health and disease and all that sort of thing. It's an uphill job though. Such a flood of absolute rot and ridiculous absurdity comes out through the commercial radio programs and such a mass of misleading and silly pseudo-scientific trash appears in advertisements that it is almost impossible to make a great deal of headway against it."

"SHE FREQUENTLY SPENT LONG PERIODS OF TIME IN EUROPE AND ALSO TRAVELED IN TROPICAL COUNTRIES."

"HE GOT ALL DRESSED UP AFTER FOOTBALL PRACTICE ONE EVENING AND STARTED TO CALL ON HIS GIRL. BUT HE NEVER GOT TO THE HOUSE BECAUSE ON THE WAY HE FELL OVER UNCONSCIOUS."

"I know the sort of stuff you mean," I agreed, "all that bunk about the wonderful preparations that are used by all the leading hospitals and the famous physicians. But, incidentally, you never hear just who or what they are, or where they are either."

"And all those pictures of eminent foreign scientists looking at x-ray pictures, eh, Doctor?" said Carey.

"Not to mention the other eminent professors who advertise in the Sunday papers," I added.

"Exactly!" said Trebor. "That's exactly the sort of stuff I mean. If it was not for human credulity superimposed on ignorance, quacks could not stay in business and 'patent medicine' men would not make the money they do. Look at the millions of people who believe absolutely that a pain in the back means kidney trouble, for example. Reputable newspapers and magazines will not accept such misleading advertising now, although oddly enough, certain so-called religious journals are generally full of them. Luckily the law has put a curb on the claims that can be put on labels these days. But much remains to be done in other fields of advertising."

"Well, I guess there isn't anything too absurd for some people to believe," I said.

"They sure do fall for a lot of bunk," added Carey with more emphasis than elegance. "I can see where you doctors have a job to tackle."

"Yes," Trebor agreed. "It's not an easy one, either. Medicine is a difficult subject any way you look at it and pretty hard to explain so that most persons can understand. At present there certainly are more of them able to grasp it than there used to be, so the world does move, after all."

"I imagine the big trouble is to get people to listen to you," I said.

"Yes," he answered, "people as a rule are not much interested in abstract things. It is hard for them to work up an interest in disease when it is merely an abstract idea. But when they themselves are sick—that's when they're interested! I'm convinced that the time and place to educate the public is when they are in the doctor's office, much more so than when they are listening to the radio and a twist of the dial will bring on a good band. There has been altogether too much mystery about disease and about doctors too."

"Why don't the doctors teach them then?" Carey demanded.

"They do to some extent, but I must admit that many such an opportunity is lost. If every patient asked the questions you fellows do—"

"A lot of them would be thrown out of the window," I interrupted.

"They wouldn't get any better answers than we do," said Carey, smiling. "Do we get a story tonight?"

"I thought you were trying to talk me out of it," Trebor answered with a grin. "Did I promise one about anything in particular?"

"'The Mystery of the Blue-Blooded Lady,'" I said promptly. "I made a note of it."

"We're going in for high society, eh?" Carey commented.

"You'll see," said Trebor. "I don't want this to be too dry, so I'll fix up this glass of mine first."

"My mouth always gets dry when I get excited," I grinned, "so I'll fix up yours and mine, too."

"What am I—an orphan?" Carey complained.

"In some ways you remind me of Oliver Twist," I answered, laughingly. "You certainly know how to ask for a second helping!"

When we had all been taken care of to our general satisfaction, Trebor began. "In spite of the title I have given this laboratory adventure," he said, "I'm afraid that we will not be mixing with the Four Hundred, Inspector. For while the sort of thing I am going to tell you about is not at all uncommon in such circles, it is by no means confined to any one class of people or any sex, either.

"As a matter of fact, this particular patient was a woman, relatively young, about 40 and

in comfortable enough circumstances so that she was able to indulge a taste for travel. She had been abroad, of course; in fact, she frequently spent long periods of time in Europe and also traveled in tropical countries. So, though she was not, strictly speaking a member of high society, she belonged to what you might call the leisure class."

"That would be society enough for me!" I interjected.

"Well, perhaps we could all do with some of it," Trebor agreed.

"Oh, you!" I said. "Your idea of travel would be to run around visiting laboratories."

"I suppose you would not think of doing any scribbling?" he inquired slyly.

"A little work never did any one any harm," Carey gravely announced with such an air of having made a profound study of the subject that Trebor and I fairly roared.

"All right!" Trebor laughed. "We'll agree to loaf half the time and work the other half. Well, on her way home from a rather extended trip abroad, this patient began to be troubled by shortness of breath. At first noticeable only during physical exertion, after a while it became more constant and gradually grew worse. About the same time she began to notice a change in her color. Her skin began to take on a peculiar grayish blue tinge. Soon the condition became so marked that her friends began to remark on it. So of course she went to her doctor. Now, there's the crime," he remarked, smiling. "Where's the criminal, the disease, the cause?"

"It's sure to be something funny," said I.

"Not at all," Trebor answered. "In fact, it is by no means an uncommon thing."

"What did the doctor say, or do?" Carey asked.

"Well," Trebor replied, "whenever you see a patient with a color like that you think first of cyanosis. That comes from a Greek word meaning blue, and it indicates that the blood contains an excess of carbon dioxide and also, as a corollary, a deficiency of oxygen.

"As you fellows know, there are two main courses of circulation in the body, the arterial and the venous. The arterial circulation carries the blood from the heart throughout the arteries of the body. This arterial blood is saturated with oxygen, which makes it bright red. This oxygen is given off to the tissues along the way. Now the venous, or return, circulation, which travels from the outlying body tissues to the heart, has lost its oxygen and in place of it has absorbed carbon dioxide, a waste product. As a result, this blood is dark in color and has a somewhat bluish tinge."

"You mean that the blood is full of these gases like soda water?" asked Carey.

"No, indeed!" replied Trebor. "There is no free gas in the blood under normal conditions. The oxygen and the carbon dioxide are absorbed and combined with the coloring matter in the red blood corpuscles, the hemoglobin. As the blood passes through the lungs it gives off the carbon dioxide in the exhaled breath and takes up oxygen from the air. Then it is ready to start the cycle all over again."

"How long does it take to do all that?" Carey inquired.

"The whole cycle takes approximately twenty-three seconds," Trebor answered.

"How can he finish the story if you keep interrupting?" I said. "We can't keep this woman cyanotic forever!"

"She stayed that way for a long time, anyhow," said Trebor. "The question was, why was she cyanotic? Of course, one always thinks first of some disease of the mechanism that takes care of the circulation; that is, the heart and lungs. However, she did not have any trouble in either of these organs. The only thing she did have was some history and some evidence of some intestinal irritation which, however, was not very obviously hooked up with the cyanosis."

"Where's the fingerprint squad in this investigation?" said Carey. "Didn't they examine her blood or anything?"

"Yes, they did," replied Trebor.

"I don't see how that would help much," I put in. "They knew it was full of carbon dioxide anyway, didn't they?"

"I was hoping some one would say something like that," Trebor said smiling, "just to illustrate the dangers of jumping to conclusions. As a matter of fact, this woman's color arose from the fact that her blood was loaded, not so much with carbonic acid, which is another name for carbon dioxide, as with methemoglobin."

"I hope that isn't as strange as it sounds," said I. "What is it, and where do you get it?"

"Methemoglobin is a somewhat peculiar substance. Its particular importance is that it does not combine either with carbon dioxide or with oxygen. If, instead of the normal hemoglobin, the red cells contain methemoglobin they are useless as a means of transport of the normal gases, as you can readily see. But this was not all. There was also a definite amount of another hemoglobin compound, sulphemoglobin, which is a combination of hemoglobin and sulphur or sulphates."

"She sounds like a chemical laboratory," I remarked. "With all those things in her blood she should have been the color of a rainbow."

"Just being blue was enough," Trebor laughed. "She was cyanotic of course, because she was more or less in a constant state of partial asphyxia, so to speak."

"What I want to know, and I'll bet she did too, is how she got that way," Carey added.

"There's nothing like sticking to the point," agreed Trebor. "That was the problem. The finding of the sulphemoglobin was enough to rule out the heart and lungs even if they had

not already been exonerated. But it did suggest that some attention be paid to the apparently unrelated intestinal tract, because as a result of the decomposition of waste protein, or albuminous matter, by the bacteria normally present in the intestine, hydrogen sulphide may be formed and may be absorbed into the blood. So the clinical pathologist was called in to determine what kind of bacteria were present and whether there were enough of them to cause the condition seen in this patient."

"What sort of a disease would you call that—intestinal cyanosis?" I ventured.

"Not a bad guess," replied Trebor. "You could call it that, but the technical name most often used is enterogenous cyanosis, meaning cyanosis arising in the intestine; or sometimes it is called endogenous cyanosis, indicating that the origin is in the body rather than from some outside source."

"Well," said Carey, "that was certainly a queer case."

"Inspector!" said Trebor reproachfully. "I'm surprised at your jumping to conclusions so quickly. You did not wait for the home office report. You see, when the report came in from the bacteriologic study, it was obvious that she did not have that sort of cyanosis."

"You win!" grunted Carey. "From now on, I just listen!"

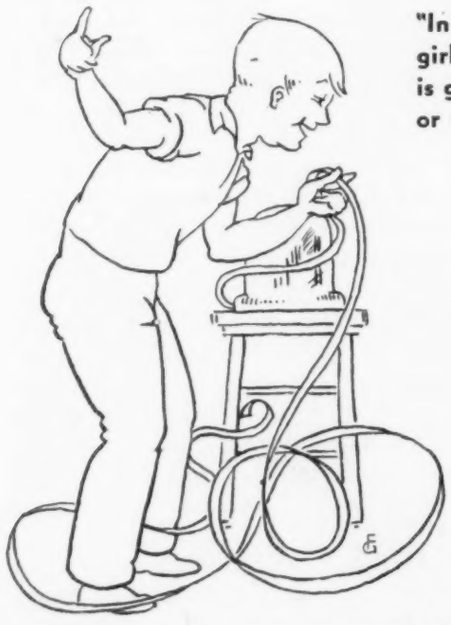
"What comes next?" I asked.

"Well," grinned Trebor, "we've had the crime, we've picked up a few clues from the examination of the scene—the patient, you know—but we evidently did not do enough questioning. We must go back to the starting point and begin digging into the history. Just as Carey sometimes goes back to question the neighborhood again in case some one can remember some more details or in case he remembers something he forgot to ask the first time, or some new angle has been suggested by what he has found out so far. That happens, doesn't it, Inspector?"

Carey just nodded with a wink.

"Now that the two more or less likely suspects were eliminated, it became necessary to look further afield, to throw out a dragnet, so to speak. Now this patient had traveled a great deal, in tropical countries too. Was this some peculiar tropical disease? To hasten things a bit I'll tell you that there was no such evidence or any such history. The only thing new that came out was the fact that she had often had headaches and was, by the way, one of those women of the somewhat high-strung, nervous type who are generally spoken of as being neurotic.

"Well, of course, people do not usually enjoy headaches, so they gen- *(Continued on page 758)*



"In times like these, invest in boys and girls. When you invest in a boy or girl you are always buying at the bottom. You are sure that the youngster is going up, and there is no telling how far . . . You are sure to get a man or woman; you may get a great man or a great woman."—*Bruce Barton.*

FORECAST FOR SEPTEMBER

THE SCHOOL NUMBER

"Boys and girls of the present day are most emphatically all right," says *Dr. Reginald Fitz* in "Remarks About Young People and Their Parents." "They are faced, however, with certain problems which did not perplex their fathers and mothers." What these problems are and some possible solutions are suggested in this liberal, sympathetic and understanding article.

What do the ABC's mean when they are found on the report card? What do they reveal concerning your child's present and future? In "School Report Cards," *Don Chalmer Lyons* emphasizes the fact that good or bad grades are not so important as an evaluation of what those grades actually represent as indicators of social adjustment. Time and effort invested by parents in analyzing and evaluating the scholastic report cards their sons and daughters bring home will bring rich returns in a better understanding of the child, a proper perspective of his capabilities and a sense of the proportionate importance of grades and their underlying meaning.

In "Diphtheria—The Big Bad Wolf," *Dr. Samuel J. Crumbine* issues a challenge which must be faced: "Diphtheria killed some 5,000 children in the United States during 1934. Those 5,000 deaths were unnecessary. No child nowadays need die of diphtheria. We know how to cure it. Better still, we know how to prevent it."

Because "books are to the mind what sunshine is to the body," *Alma H. Jones* utters a timely plea in "Satisfy Your Child's Book Hunger." Concrete suggestions are made for reading from the earliest days through the developmental stage. Books for various ages and interests are discussed. A list of the general characteristics of good books forms a guide which is not only helpful but essential.

Among the many other interesting articles will be found a paper on left-handedness as a possible asset, written by *Helen Farnsworth*; "Obesity, the Open Door to Diabetes," a play in one act by *Dr. Thomas Hodge McGavack*; "What's Behind the Label?" by *Dr. Lee D. Cady*, and *Frances Kidd's* impartial analysis which she entitles, "Physically—Is Basketball a Girl's Game?"

WORKERS ARE FREQUENTLY EXPOSED TO FLYING PARTICLES AND SUFFER FROM FOREIGN BODIES FORCIBLY DRIVEN INTO THE EYE. IN MANY INDUSTRIES THEY ARE REQUIRED TO WEAR PROTECTIVE GOGGLES.

INJURIES and FIRST AID to the EYE

Chapter XII of THE EYE BOOK

By Hyman Cohen

THE EYE is a combative target. In ancient warfare, putting the eyes out was a savage punishment for captive king and slave alike. The spurred gamecock goes for the eyes of his antagonist; in desperate single combat the enraged human being seeks to gouge his enemy's eye out with his thumb; pugilistic heroes and would-be heroes aim for the eyes of their opponents. "I'll scratch your eyes out" or "I'll punch you in the eye" is the point of verbal wrath; the nose is only second choice. Even viciousness recognizes the supreme importance of the eye.

In public esteem the blackened eye has a facetious import; it is glorified by such exquisiteness of speech as "blinker" and "shiner." Those in possession of the adornment are usually not so much concerned with their blackened eye as with the picture it makes in the eyes and imagination of others. Explanations as to its origin are plentiful and often fanciful: It was only a little mishap, merely a sign of friendly interchange, and who would interpret it otherwise, now and then, than as a mark of conjugal tenderness?

Whether inflicted by fist, stick or stone, flying object or obdurate jutting, the result is a swelling and discoloration of the loosely attached tissues about the eye. There may be swelling, bulging and redness of the conjunctiva. In most cases no other harm is done, and in the course of a week or two these symptoms disappear. The popular use of an oyster, tea leaves, a slice of raw steak or other insanitary remedies may result in infection and abscess of the lids when the skin is broken.

Cold compresses at the very beginning and a snug bandage are all that is necessary if it is nothing more than a blackened eye; later, hot compresses and massage may be used to good advantage.

Lacerated lids may leave disfiguring scars and result in poor closure. They require surgical attention. If the rim of the orbit is fractured, there is pain at the point of injury and crackling of the puffed-up part due to an infiltration of air from the surrounding sinuses.

WHEN there is injury to deeper structures, great harm results. The eyeball or some of its coats may be ruptured with serious consequences. The same applies to the cornea. The iris may suffer injury and become paralyzed for some time. In this event there is frequently a

hemorrhage which fills the front chamber of the eye with temporary obstruction of sight. This is absorbed in the course of a week or two, and the sight returns. If there should also be a hemorrhage in the back part of the eye, much damage may result with permanent loss of sight.

Detachment of the retina, hemorrhage behind the eyeball and tearing across of the optic nerve may all result from a pernicious blow on the eye. Perforating injuries of the eyeball with a sharp pointed object or a flying projectile are most likely to cause destruction of the eye and endanger the other eye as well.

THE commonest of all eye injuries is that produced by some particle entering the eye. In the city, it is liable to be a coal cinder, a bit of sooty smudge, a mineral particle or anything afloat and adrift on the wayward winds. In the country, caterpillar and plant hairs, sand, dust and bits of emery sometimes get into the eyes. Workers in shops and factories and street repairers are always exposed to flying particles and frequently suffer from foreign bodies forcibly driven into the eye.

Every one has experienced the sudden little stab and scrape in the eye, the wincing movement of the eyelids, the flooding of the eyes with tears and the continued pain and irritation if the offending particle is not immediately removed or brushed away from the sensitive cornea.

Most invading particles fall on the front of the eyeball; if they are not driven into and held fast by the superficial tissues, they are picked up by the brushing lids from which they can easily be removed—from the lower lid by merely pulling it downward and from the upper lid by turning it up. Often the foreign body is hidden away in the loose folds of the conjunctiva where it stays for some time and causes considerable trouble. Foreign bodies that become imbedded in the cornea produce irritation and sometimes infection. Often they are so minute that they can be discovered only by means of a magnifying glass, in a good light, and with the aid of a certain stain.

The removal of imbedded particles should not be left to sympathizing friends or to the proddings of drug clerks. Such foreign bodies constitute a potential danger to the eye and require expert attention from an oculist. The more serious instances, in which the foreign body perforates the eye and lodges in it, offer a grave surgical problem. The x-rays help to locate them; if the particles are metallic, a giant magnet is used for their removal. In many industries, workers are required to wear protective goggles.

The eye that is scorched by flame or scalded by a spurt of steam, hot water or frying fat requires medical attention to prevent subsequent infection and disfigurement by scars.

In injury by alkalis, such as mortar and lime, as much of the offending substance as possible should be carefully washed away with warm water, and the remaining alkali should be immediately neutralized with a solution of weak vinegar. Acid burns should be neutralized with a solution of sodium bicarbonate. In both instances the eye should then be gently irrigated with warm boric acid solution and covered with a bland oil. An eye physician should always be consulted.

IN ANY kind of an eye injury without perforation of the eyeball, a cold compress may be put on until the doctor arrives. If a perforation of the eyeball is apparent or is suspected, the services of an oculist should be secured without delay. Meanwhile the injured eye may be

PERFORATING INJURIES OF THE EYEBALL WITH A SHARP OBJECT ARE LIKELY TO DESTROY THE EYE AND ENDANGER THE OTHER EYE ALSO.

gently washed with a solution of boric acid and then temporarily covered with a light, sterile gauze dressing. In the absence of sterile dressing material, a clean bit of cheese-cloth or linen, which has been thoroughly boiled, may be used.

Rest is the mother of recovery, no matter what the disease. The eye is naturally a roaming, restless organ. In serious inflammatory conditions of the eye it is therefore all the more important that the patient should stay in bed to keep the sick eye from trying to follow along with the busy world.

Next, and equally necessary to secure eye rest, is the importance of not allowing the well eye to be used in reading or in any other way. The working relationships between the two eyes is so close that for perfect rest the action of the two must be suspended at the same time. That is why it is often best to bandage both eyes.

The room should be well aired; and if there is oversensitiveness to strong light, such light should be avoided by so placing the patient that the light does not strike the eyes directly.

In inflammatory conditions the diet should be light. Alcohol in any form should not be used except under certain conditions in elderly, habituated persons in whom its sudden withdrawal might induce great restlessness. Smoked lenses should be used in all cases of oversensitiveness to light, but prolonged use is unwise.

Dressings should not be used when there is discharge from the eye. To keep the eye closed and the lids from causing painful disturbance in certain conditions, a dressing of several small pieces of sterile gauze is used, secured by adhesive strips or an eye patch. A little sterile petrolatum should be put on the surface of the dressing next to the eye to prevent the gauze from sticking to the lids and causing irritation.

In some cases a pressure bandage is necessary. Sufficient cotton to fill up the hollow in front of the eye is enfolded in gauze and secured by a bandage. The pressure should not be too great, and the bandage should not be kept on too long. The pressure bandage is usually required in certain serious conditions, and its employment should be directed by the medical attendant.

Cold local applications in the form of cold compresses are used during the first twenty-four hours after an injury or at the beginning of an acute inflammation in order to counteract the congestion. The patient should lie on his back; several bits of gauze or some similar material about the size of a silver dollar may be dipped in cold water or kept on a cake of ice before being applied. The cold compress may be kept on the eye almost constantly, except in young infants and in cases in which the eye is greatly devitalized. Often heat is more easily borne than cold.

Heat may be used from the beginning or after twenty-four hours in contusions and inflammatory conditions to promote circulation, to help healing and to soothe pain. The hot compress is prepared by folding in four a freshly boiled wash-cloth; it is applied for ten minutes every few hours. It should be soaked in hot water every minute or two so that it will stay hot. This procedure gives great relief in all the milder forms of conjunctivitis and sties. In chalazion it may be combined with massage.

One teaspoonful of common salt added to 1 pint of warm water, or 1 heaping tablespoonful of boric acid crystals dissolved in 1 pint of hot water and then allowed to cool to body temperature are good, harmless solutions for the irrigation of the eyes. It is best to use a fresh wad of sterile cotton for each eye and each irrigation. The patient should be on his back with his head inclined so that the solution flows off toward the ear and not across the bridge of the nose to the other eye. Some suitable dish should be placed underneath the side of the face to catch the solution as it flows off the eye.

Antiseptic and astringent solutions should be prescribed by the attending physician and used according to his directions.

To keep the lid borders from sticking together overnight, a boric acid salve is applied with the finger along the lid borders before retiring. If the lid borders are gluey or the lashes matted, they should be cleansed first with warm water and soap.

The use of any other but the boric acid salve must be directed by the physician. It is not safe to use any kind of medicine in the eyes except that which is prescribed by a doctor. The practice of using medicine prescribed for the eyes of some one else, no matter how much it might have helped the other person, is most emphatically not safe and frequently does great harm to an eye. This is an evil frequently practiced at the risk of serious injury. A permanent staining of the white of the eye is sometimes caused by the prolonged use of certain mild silver protein preparations.

Massage is an important maneuver in certain conditions, sometimes employed in conjunction with salves; it requires the supervision of the attending physician.

Sweating may be greatly helpful for the reduction of tension in acute inflammatory conditions of the eyes, in detachment of the retina and in certain toxic conditions. If the purpose is to abstract fluids from the body, the liquid intake should be as little as possible; in toxic conditions as much liquid as possible should be taken. Sweating should not be employed in cases of weak heart, hardening of the arteries or pregnancy.

[Note.—In the September issue, Dr. Cohen will conclude "The Eye Book" with a chapter on personal hygiene of the eyes.]

DIET and the TEETH

Chapter VIII of THESE TEETH OF MINE

By David W. McLean

LIFE IS chemistry plus the divine spark. Not all chemistry expresses itself in life, but all life expresses itself by means of chemistry.

The ameba, a one-celled animal of microscopic size like a miniature jellyfish, wraps itself around its particle of food, dissolves it, absorbs it and builds part of it into more ameba. The rest is burned as fuel so that the ameba can move itself around and digest more food particles.

In the human organism the process is basically the same although vastly more complicated. Food taken into the mouth starts its journey through the chemical laboratory after being chewed by the teeth, ground up and mixed with the chemical enzymes of the saliva. The changing and dissolving processes begin at once, and the mouth chemicals continue working on the food throughout its progression into the interior of the body.

In the stomach more chemicals are brought to bear on the food. It is kneaded, churned about and further dissolved. More chemicals are poured in as the food moves into the intestine. Then the food elements are separated and converted into a form usable by the body cells.

The useful elements are taken up by the cells located in the walls of the intestine and are passed into the blood stream for circulation through the body.

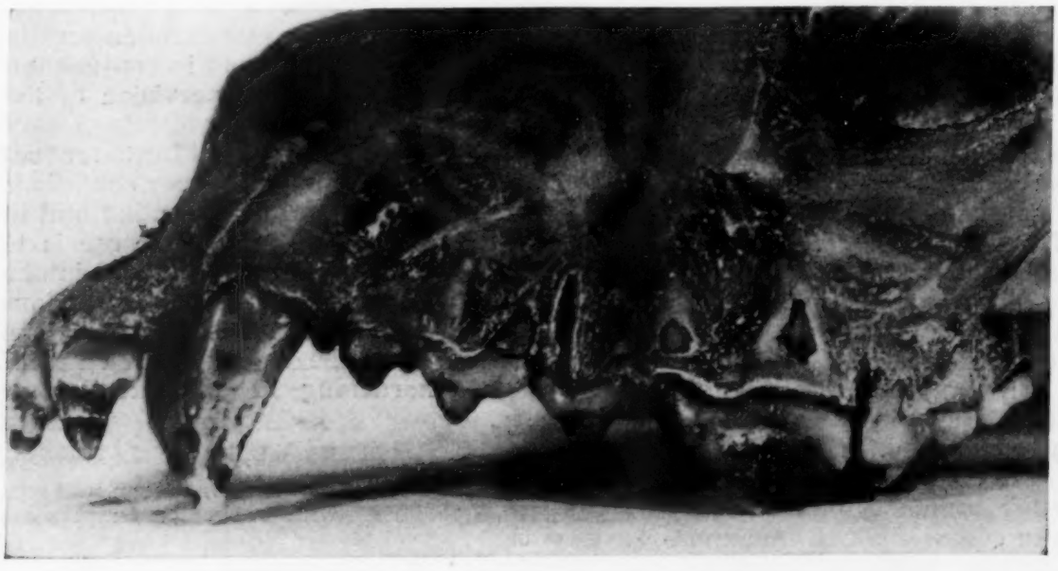
When the individual wants to move a finger, cells in the brain act simultaneously. Cells in the nerves carry the messages from the brain cells to the muscles. Myriads of cells in the proper muscles fly into action to move the finger bones, and other cells oil the finger joints.

ALL THESE brain, nerve and muscle cells that do such work use up food elements and wear themselves out somewhat in doing it. They deplete their store of oxygen and become overloaded with carbon dioxide.

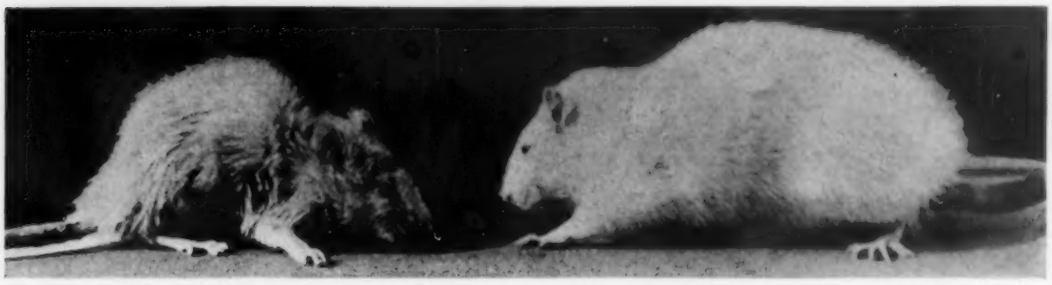
Red blood cells start from the lungs, loaded with oxygen. At the heart they are given the impetus which starts them toward the farthest reaches of the body. Their oxygen content flows out to the body cells. In twelve seconds the same blood cells are back at the heart again, relieved of most of their oxygen and floating in blood plasma which has become loaded with carbon dioxide. The blood is shunted to the lung, is unloaded of carbon dioxide and reloaded with oxygen, and is back at the heart in a few seconds, ready for another trip through the body.

In much the same manner, the body cells attract from the blood stream the food elements they need for renewal of fuel, self repair and the building of new cells during the growth or the building or hardening of bones and teeth. At the same time they pass their burnt ashes out to the blood for elimination from the body.

All this is automatic. In lower animals the selection of food also is automatic to a degree. Where the vegetation is lacking in calcium and phosphorus, cattle will instinctively eat old



DIETARY DEFICIENCIES RESULTED IN THE FORMATION OF THE SOFT, FAULTY ENAMEL THAT MADE THESE TEETH SUSCEPTIBLE TO DECAY. (PHOTOGRAPH, COURTESY PROF. J. A. MARSHALL, "DENTAL COSMOS.")



THE RAT ON THE LEFT WAS BROUGHT UP ON A DIET DEFICIENT IN CALCIUM AND PHOSPHORUS, WHILE HIS TWIN BROTHER ON THE RIGHT RECEIVED AN ADEQUATE DIET. (COURTESY OF PROF. J. A. MARSHALL.)

bones lying in the field and thus obtain the needed minerals for a balanced diet. But in human beings the whole process of body chemistry hinges on the intelligent selection of necessary food elements which shall be available in the blood stream.

Usually man's hunger is so indefinite in expressing specific food needs that he is easily fooled. South American natives on the march through country lacking in food habitually chew coca leaves, the cocaine of which numbs the stomach and kills hunger. The modern hiker slips a bar of chocolate into his pocket, which is better sustenance because the sugar does produce energy. However, the sugar also numbs the appetite. The child often resorts to sweets between meals, a habit which fools the appetite without providing the elements for which the growing body is crying.

THE child who gets a good start in life is born with an amplitude of calcium and phosphorus provided by his mother. A surplus has been stored up in the long bones of his arms and legs, from which it can flow out into the blood as needed to keep up the supply until the child's own diet can supply the need. The mother's milk, if chemically right, is rich in all the elements he needs. But later he will take his place at the dining table. At this time, if not before, his reserve store of minerals begins to dwindle, to the detriment of bones, teeth and general health. Surely then, it is best for every one to learn the values of foods and their approximate vitamin content.

While earliest medical writers in some instances recognized the influence of diet on teeth it has only been within the last couple of decades that research has opened up new vistas.

At first, experiments with diet were made entirely on animals. Some investigators preferred rabbits, some dogs and others rats; at times, monkeys have been experimented on, as their dietary requirements more closely approximate human dietary needs. This naturally led to some confusion of results. All investigations stand united on the fact that diets low in calcium, phosphorus and vitamin factors affect not only the original formation of teeth and bones but also their resistance against the ravages of disease and particularly against the great universal scourge of modern man, tooth decay.

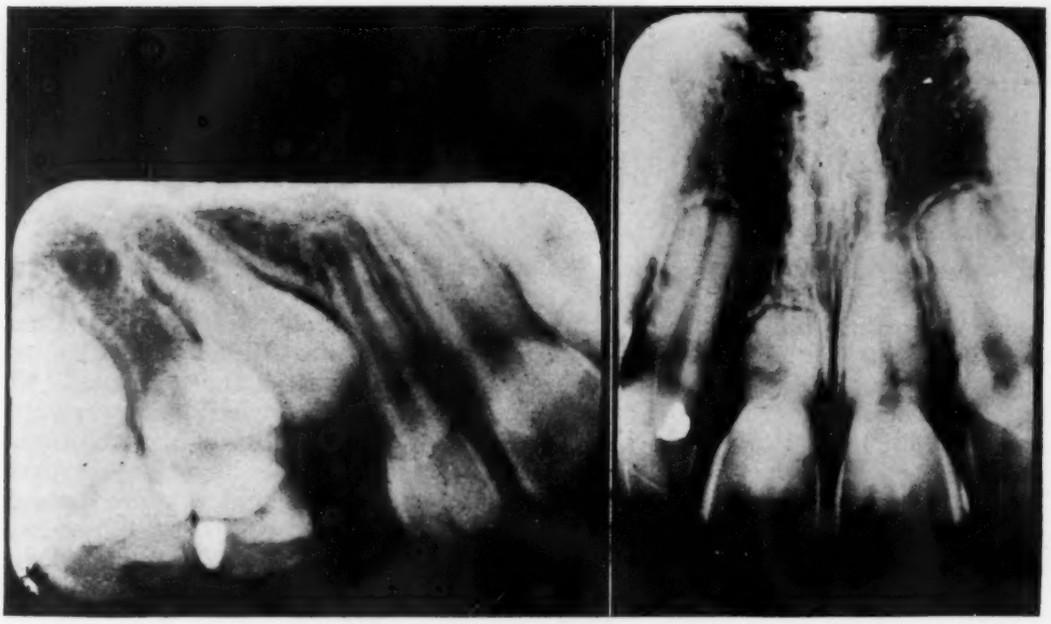
Some investigators contend that dietary softness of teeth is itself the cause of decay; others claim that it makes the progress of decay, once started by bacteria, more overwhelming.

The blood plasma reaches through the tubules of the dentin to the lacunae at the inner surface of the enamel shell of the tooth. If this shell is properly fortified with calcium, phosphorus and vitamins, it hardens the tooth against the progress of the disease. Microscopic examinations of decaying teeth prove that.

However, no matter how deficient the diet or how soft the teeth, dental decay does not result until the teeth have come into contact with the saliva and whatever it contains in the way of chemicals or bacteria.

Therefore it is logical to believe that since bacteria in the saliva soften the tooth enamel by

THE RAT ON THE RIGHT GREW UP ON A DIET OF WHEAT, MEAT AND MILK POWDER. HIS TWIN BROTHER ON LEFT RECEIVED NO MILK POWDER. THE EFFECTS OF DIETARY DEFICIENCY ARE STARTLINGLY CLEAR. THE CURVED BONES SHOW THE PRESENCE OF RICKETS. (PHOTOGRAPH, COURTESY OF PROF. H. C. SHERMAN, "JOURNAL OF BIOLOGICAL CHEMISTRY.")



DEFICIENCIES OF DIET OR OF DUCTLESS GLAND CONTROL MAY CAUSE THE ENDS OF THE TOOTH ROOTS TO BE RESORBED, PARTICULARLY WHEN THE TEETH ARE BEING TREATED ORTHODONTICALLY, ALTHOUGH RESORPTION OCCURS ALSO WHEN NO ORTHODONTIC BANDS ARE WORN. ON THE LEFT THE TEETH ARE SHOWN WITH ROOTS FULL LENGTH; AT THE RIGHT ARE SHOWN THE SAME TEETH FIVE YEARS LATER.

means of the acids they produce, a hard, well fortified tooth, the result of plenty of calicum, phosphorus and vitamins in the diet, is more difficult to dissolve than a soft one. It is also logical to believe that if a soft tooth contains active decay, improved diet may harden that tooth and inhibit or stop the disease. No diet will heal a cavity once formed. The cavity remains, filled with débris of decayed dentin, food and bacteria; it is a loaded gun pointed at the patient. The dentist is then the only defense.

Some investigators say that properly fortified diets influence the chemical composition of the saliva and blood in some way which protects against the acid-forming bacteria themselves. Recent investigation shows the possibility that minerals may flow from the saliva itself to the teeth, hardening them. All these facts point directly to the study of diet.

The study of dietary needs has now progressed to the point where children themselves can safely be made the research laboratory for the discovery of new knowledge. Throughout the civilized world the knowledge gained so far is being applied to groups of children, greatly benefiting them as well as providing continual new light on the problem of diet.

Programs of study and treatment are undertaken in institutions such as schools, churches and orphanages, and sometimes in groups of children living in their own homes. Naturally a unified dietary system in institutions is preferable. The children are divided into groups. Group A children continue on the diet which was already in force before the study commenced. Group B take the same diet plus additions supplying the elements in which it was deemed deficient. Group C children get the fortified diet "B" and are also deprived of certain elements of the original diet believed harmful. A careful check of the children's teeth before starting and at frequent intervals during the treatment soon provides evidence of the results.

These investigations have shown that the average civilized diet, both in cities and in the country, is at best on the borderline of deficiency in calcium, phosphorus and vitamins. By the addition of these elements, bones and teeth have been hardened and tooth decay has been inhibited.

The problem then becomes one of finding the amount of calcium and phosphorus needed by the body each day and then of finding the means to provide that amount in a logical and palatable way. One cannot expect a child to draw up to the table with any enthusiasm to drink a pint of orange and lemon juice, take a spoonful of cod liver oil and eat a head of lettuce and four stalks of celery. The meal should not be too obviously an assortment of chemicals. It should be a thoroughly enjoyable meal and still contain the items necessary to the formation and maintenance of good teeth.

Careful experiments have been made in which all the calcium and phosphorus taken into the body was measured and balanced against all that was eliminated. The intake was gradually increased until the amount eliminated was a little less than the intake, thus insuring that all bodily needs were being cared for by the diet, without any inroads being made on the body's reserve store. The amount of phosphorus required by the growing child of from 3 to 13 years of age was found to be 1.5 Gm. a day, one and one-half times the amount required by a man. At the same time, the child required 1 Gm. of calcium, or twice as much as the man.

Phosphorus and calcium may be supplied in tablet, powder or syrup form to augment the

diet. The most acceptable form to the body cells, however, is that found in the food itself. The calcium obtained from milk is best retained and used by the body cells. A quart of milk a day should be included in the diet of the growing child. If the child does not like milk to drink, it should be supplied in puddings, bread, potatoes and other cooked foods.

The child should also have an egg and a moderate amount of meat or fish each day. Meat is still the most desirable form of protein obtainable, and both meat and fish are fairly rich in minerals. An ounce of good butter should be eaten every day. The mineral and vitamin content of milk and butter varies greatly, depending on the amount of sunshine available when they were produced and also on the amount of calcium and phosphorus in the soil which nourished the vegetation eaten by the cattle producing the dairy products.

THE daily diet should contain one or more portions of leafy vegetables, fruits in salad or other form and also the juice of one or two oranges or tomato juice.

Sugar in the diet should be reduced to a minimum and eaten only with meals; candy is best eaten at the close of the meal. Sugar has been called the thief of calcium. It has been claimed that an excess of sugar unites with calcium to form an insoluble compound which passes through the body without ever being absorbed. This may or may not be true, but certainly sugar becomes in another sense a thief of calcium and phosphorus by too readily satisfying the appetite. Sugar plays an important local part in the decay-producing operations of bacillus acidophilus, by clinging around the teeth to provide that bacillus with food. Sugar has been found to do something to the chemical composition of the blood or saliva or both that enables bacillus acidophilus to thrive in the patient's mouth. Fruit between meals will replace sugar to good advantage.

The calcium and phosphorus elements of the diet may be increased by the addition of calcium compounds ordered by the doctor. The most desirable form of calcium and phosphorus for absorption is to be found in the diet itself. Wheat germ added to whole wheat cereal just before the cereal is removed from the stove is a valuable source of phosphorus.

If much cereal is eaten by the child, an ounce of cod liver oil a day should be added to the diet. The cod liver oil should also be added if there is a scarcity of sunshine or a tendency toward tooth decay. Both sunshine and cod liver oil supply vitamin D.

Overdoses of vitamin D must be guarded against, for both experiments and clinical observations show that an excess of vitamin D may cause softening rather than hardening of the bones and teeth. Recent investigations seem to indicate that doses of parathyroid extract increase the amount of calcium and phosphorus in the blood by causing their removal from the bones and teeth; whereas proper doses of vitamin D increase the blood minerals by causing their absorption from dietary sources and in addition rendering them ready for absorption and use by the cells that build bones and teeth.

Too much cooking destroys vitamins. On the other hand, too much raw food and roughage are conducive to undesirable intestinal conditions. Discretion dictates a middle course therefore between overcooked vegetables and a diet loaded with raw ones. The planning of a definite dietary routine should be based on broad experience and thorough examination of the patient. Dietary prescriptions should be made by the physician or, for dental purposes, by the physician and dentist in collaboration.

DIET, then, must play an important part in any well rounded program aimed at the prevention of tooth and bone shortcomings. It is especially important during the prenatal, preschool and school age of the child. His body growth and mental development make heavy demands for calcium and phosphorus and the other factors that go to make up a well balanced diet.

While diet is always important, it must not be relied on too extensively or too exclusively. Diet is only one of the avenues of approach to the dental problem.

In a well rounded life program for the prevention and control of the two basic dental diseases, caries and pyorrhea, diet is one of three important factors. The second is that of mouth hygiene, the art of the tooth-brush, and the third is prompt, periodic and adequate dentistry.

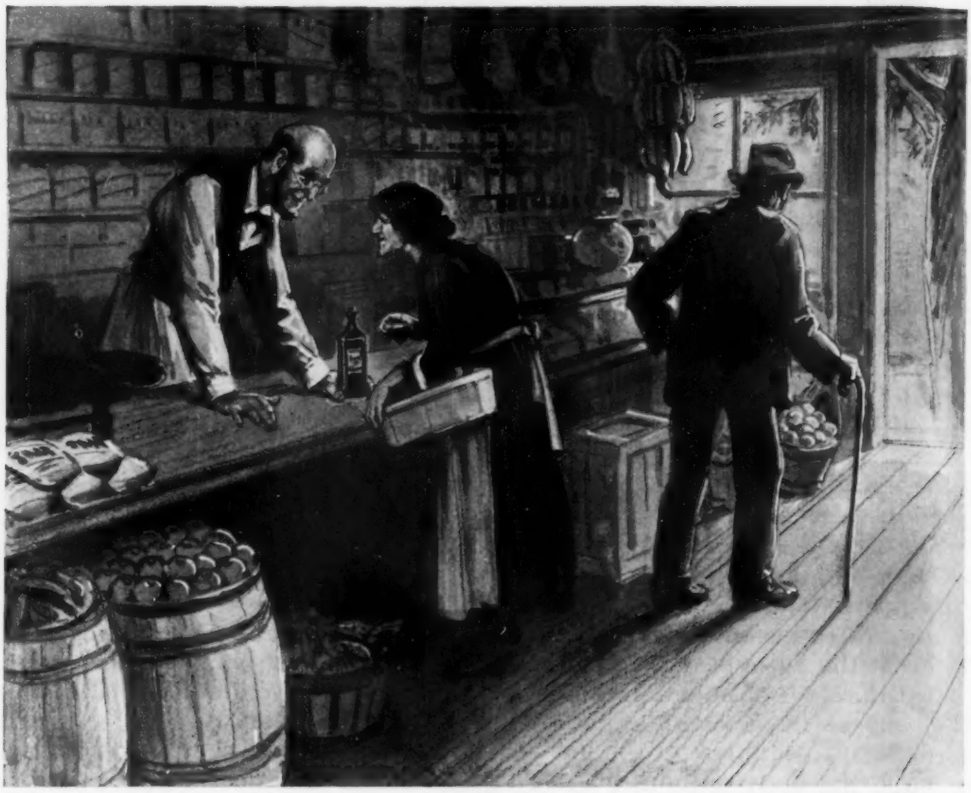
[NOTE.—In the September issue, Dr. McLean will continue this series with a chapter on the art of the tooth-brush.]

THESE CHILDREN OF CENTRAL EUROPE GREW UP UNDER UNFAVORABLE DIETARY CONDITIONS DURING THE WORLD WAR. THEY ARE ALL OF THE SAME AGE; THE BODY WEIGHT HAS BENT THE SOFT LEG BONES OF THOSE WHO HAD DIETS DEFICIENT IN CALCIUM, PHOSPHORUS AND VITAMINS. (PHOTO, COURTESY OF U.S. DEPARTMENT OF AGRICULTURE.)

"JAKE PARALYSIS"

By

P. M. ASHBURN



IN ONE CASE, DEATH FOLLOWED THE PROLONGED USE OF FLUID EXTRACT OF GINGER, WHICH HAD BEEN PRESCRIBED BY A GROCER AS A CURE FOR STOMACH TROUBLE.

ONE of the most tragic results of the great social experiment of national prohibition was the epidemic of "jake paralysis," or jamaica ginger poisoning, which occurred early in 1930. The disease appeared in many parts of the United States from New England to Texas. A year later, it broke out again in California. No one knows how many persons were caught in this epidemic, or how many are still hopelessly paralyzed. No exact figures are available. Estimates as to the number of cases have varied from 15,000 to 100,000. The truth probably lies somewhere between the extremes but much nearer to the lower figure. Such a toll in a few months' time from poliomyelitis or infantile paralysis, which "jake paralysis" most nearly resembles, would have brought forth excited comment from newspapers all over the land. The "jake" cases somehow caused little comment or popular interest.

Jamaica ginger has long been a common domestic remedy for cramps, colic and diarrhea. The members of the present urban population may not be familiar with jamaica ginger, but their grandparents were, and the rural population knows the remedy well. Like the usual standard tinctures, it is the active extractive from one part of crude drug in ten parts of alcohol. The preparation is too strong and too burning to be taken undiluted, but it is usually administered in such form that it still bites and burns. The solution possesses twice the alcoholic strength of brandy. The ginger, if equally diluted, is no more harmful than that used in gingerbread. The preparation was sold without a doctor's prescription by druggists, grocers and the keepers of small general stores in farming districts. Grandmother could purchase it for the small boy's tummy ache from green apples or for the granddaughter who had menstrual pains, and thus she could often avoid sending for the doctor. She would administer a spoonful in water or syrup, and the resulting feeling of warmth and well being would often let the pain be forgotten.

LONG before national prohibition was attempted, men and women in Kansas, Mississippi, Tennessee and other prohibition states discovered that jamaica ginger was "good for what ailed them." What ailed them was often the desire for a drink. So the sales of jamaica ginger grew, and standard methods of dilution became popularized. A 14 dram or 2 ounce bottle of jamaica ginger, alcoholically equivalent to 3 or 4 ounces of whisky, added to a bottle of carbonated beverage or to milk became a popular combination. Ginger drinking was therefore firmly and widely established before national prohibition was attempted.

After the adoption of the eighteenth amendment to the Constitution, the Volstead act was passed by Congress, prohibiting the manufacture, sale or transportation of any beverage containing more than 0.5 per cent of alcohol and establishing in the Treasury Department a bureau of prohibition to enforce it. Since the farmer cannot always prevent the fermentation which occurs spontaneously in cider or grape juice, the bureau ruled that the possession of such juices containing more than 0.5 per cent of alcohol was not a violation of the law, but that they might not be sold. Since the bureau did not class jamaica ginger as a beverage its sale was allowed to continue. This resulted in reports and complaints which forced recognition of the fact that it was a beverage. The bureau then made a ruling to that effect and authorized the sale of ginger extract of double strength tincture as a domestic remedy. The devotees were quite able to swallow that when judiciously diluted, and on Nov. 5, 1925, a ruling was made that no fluid preparation of ginger weaker than the fluid extract of the U. S. Pharmacopeia could be sold without prescription. This contains ten times as much ginger extract as the tincture, is ten times as hot for the same amount of alcohol. Business suffered, but necessity is the mother of invention, and when business suffers some bright chap is apt to find a remedy in the course of time. The prohibition bureau soon began to receive samples of ginger extract which were not as gingery as usual but which passed the routine simple tests for alcoholic content and solid residue.

THE prohibition bureau found that several business men from Brooklyn were manufacturing a fluid extract of ginger which contained the proper amount of alcohol and solid residue but had only half the ginger extract. This had been achieved by using only one pound of ginger in place of the usual two and then completing the mixture by the addition of castor oil, molasses, glycerin, herb extracts, mineral oils and other substances. Although such adulterated products were seized when detected, they quickly reappeared under new brands. Possibly because it was more effective in preventing the burn of the ginger, the castor oil adulteration grew in popularity. In 1929 a salesman wrote to his employer, a Boston maker of fluid extract of ginger, that the New York companies were getting all the business with their castor oil stuff and that he, the boss, should find something to excel it. The boss called on a promising young chemist, who was employed by varnish manufacturers, and stated his needs. The promising young man had an inspiration which he said was sure to be the answer. Lindol, a substance used to give plasticity to varnishes, to the enamel of patent leather and to many other substances, would be ideal. It would not leave any flavor of castor oil on the palate and could not be easily detected. A few simple tests showed the quantity of lindol which was necessary in half-strength fluid extract of ginger to give the proper amount of solid residue on evaporation. Apparently it was as simple as that. There is no evidence that either the manufacturer or the young chemist knew that the stuff was poisonous. No one had heard of lindol poisoning. Of course, varnish and patent leather are not common articles of food or drink, but neither thought of that.

Some of the mixture was bottled in Boston and sent out as Hub brand, but much more was shipped in barrels to Cincinnati and elsewhere and then sold in 2 ounce bottles marked Anchor, Peer, Royal, K.D., K.K., Q.C., Bob, Fulton, Tommie, Deco, Uanaca, Land and other brands of fluid extract of ginger. Agents went forth with new samples and new hopes. In January, connoisseurs examined and tested the new extract and pronounced it good. In February, country stores and soft drink stands carried it for sale. Business increased, and the Boston benefactors were "sitting on top of the world."

IN FEBRUARY the newspapers in Mississippi, Tennessee, Kansas, southern Ohio and elsewhere carried news of epidemics of a new and strange disease, a form of paralysis affecting adult males principally and involving the feet, the legs and in many instances the hands and arms. While apparently not contagious, the malady usually occurred among groups of persons. After the victim suffered a brief period of discomfort and pain and tenderness in the calves, usually without fever, a paralysis developed which was then diagnosed as peripheral neuritis but which also resembled poliomyelitis. The little town of Ripley, Ohio, had about 100 cases; the Cincinnati Hospital treated more than 500 patients, and there were more than 500 cases in Wichita, Kan. The victims were usually from the humbler walks of life, in many cases ne'er-do-wells and habitual drunkards and drug addicts.

Doctors were interested but puzzled. They were facing a new and strange thing, an epidemic of a disease that was not contagious and that lacked the usual signs of an infection. The victims themselves furnished the key to the mystery. Their stories usually revealed that several in a group had been drinking ginger extract. The next day all the drinkers had gastro-intestinal disturbances such as nausea and vomiting, some abdominal pain or diarrhea. This continued for several days. Then each patient felt as well as usual for a while. Soon a soreness appeared in the calves of the legs, as though the victim had been running, jumping or standing on a ladder for a long time. In many instances the muscles were sore on pressure. After a few more days it was noticed that the toes could not be moved, and this was soon

followed by a bilateral foot drop, which made the toes drag in walking. After another week or ten days, there might also be wrist drop and weakness of the fingers.

Some patients immediately blamed the whole trouble on ginger drinking. Almost before the doctors knew the cause of the trouble, although most of the physicians spoke of it as a peripheral neuritis, the sufferers had baptized the disease "jake" or jamaica ginger paralysis, and their diagnosis was found to be correct. But that did not help the doctors to find the cause. Ginger alone had never produced such symptoms. While alcohol had long been known as a cause of neuritis, alcohol in such small amounts as the extract contained should not cause such a condition. The definite period of incubation, that is, the time elapsing between the drinking of the ginger and the onset of paralysis, usually about ten days, suggested a bacterial infection; but no causative bacteria could be found, and other proofs were lacking. Then it was suggested that the ginger root from which the preparation was made had been contaminated by an admixture of certain roots which looked like ginger but were highly poisonous. Such roots were said to grow in Puerto Rico. Neither the roots nor extracts from them were found. Ginger extracts of the brands consumed by some of the paralytics were seized and examined for lead, arsenic, mercury and other known poisons which might produce neuritis. They were not found.

THE triorthocresyl phosphate, or lindol, was finally isolated and identified by P. J. Valear, Jr., a chemist of the prohibition bureau. The National Institute of Health of the Public Health Service then carried on extensive experiments on animals which "showed conclusively that triorthocresyl phosphate, and in so far as the present evidence goes, it alone, can produce in experimental animals a motor paralysis of the extremities in every sense comparable with that which recently occurred in human victims who drank of an adulterated fluid extract of Jamaica ginger."

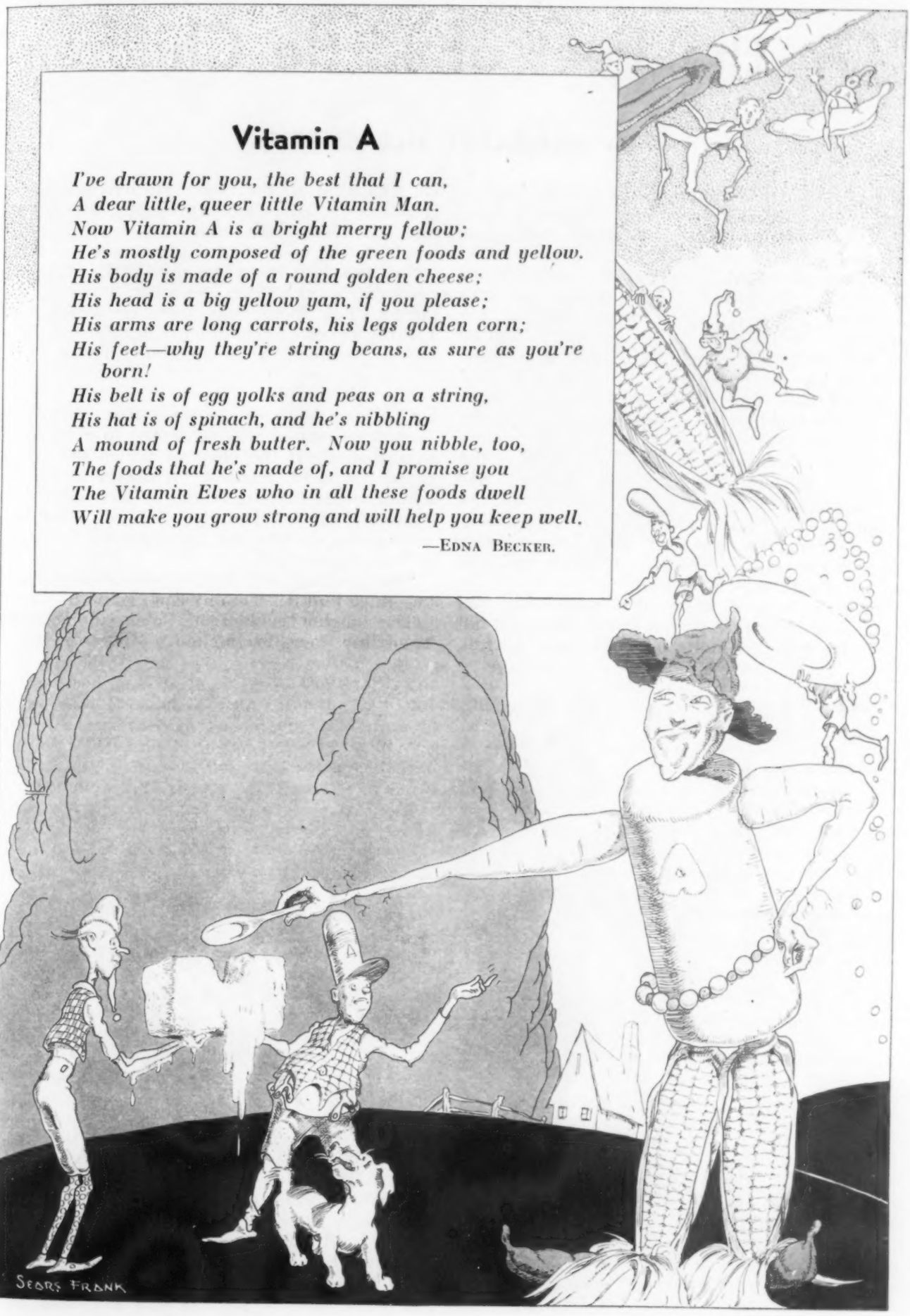
As the adulterated ginger was found to contain 2 per cent of the poison, and as some patients admitted taking but one 2 ounce bottle, it is possible that in some instances as little as 1.2 Gm. of the triorthocresyl phosphate was sufficient to produce paralysis. Many patients who had no greater paralysis gave histories of much larger indulgence, but there is the possibility that most of their drinking may have been of ginger preparations which did not contain this particular adulterant. There were few deaths during the epidemic. In one case reported from Cincinnati, death followed the prolonged use of fluid extract of ginger, which was prescribed by a grocer as a cure for stomach trouble. From December 1929 to March 15, 1930, the patient, a woman, drank a bottle of ginger daily, except on Sundays and holidays, when she drank two or three bottles. Paralysis of the feet, legs and hands and a later involvement of the vital centers in the medulla oblongata developed, with resulting death. The reporting physician considered this to be a case of pure poisoning by triorthocresyl phosphate, but his report of the autopsy observations reveals that there were also signs of chronic alcoholism. Even so, these signs did not mask or conceal the damage done by the lindol.

SUBSEQUENT newspaper reports and letters from physicians indicate that the large majority of cases of "jake paralysis" showed improvement. Some patients recovered completely; some died; others disappeared from the institutions in which they were being treated, and three years after this epidemic, approximately one fourth of the institutionalized patients were still public charges, apparently hopelessly crippled.

Nearly a year after this epidemic, another and smaller outbreak of the same paralysis, again due to adulterated fluid extract of ginger, occurred in southern California. This outbreak was under control by the time only 125 cases of paralysis were recorded. The ginger extract contained about one-fourth or one-third as much lindol as the ginger of the preceding year. Five men in New York were indicted, and three were convicted of conspiracy to violate the National Food and Drugs Act in making this shipment. Two of them were sentenced to twenty months in prison with a fine of $2,500, and the third was given seventeen months' imprisonment.

If moral lessons may be drawn from this sad story, I am inclined to think that they are two. First is the ancient one that love of money is the root of all evil. Nothing else was responsible for "jake" poisoning. The second is bound with the first and is to the general effect that the love of money too often puts into the hands of the uninformed public or into use in industry certain products and processes which are dangerous and deadly and which could have been determined in advance to be so had they been examined pharmacologically or experimentally. This is the history of many industrial and food poisonings.

Behavior cannot be made moral or immoral by statute, yet the difference between morality and immorality is largely a matter of obedience or disobedience to laws written in the hearts of people, of the herd. As these laws in the hearts of men change, so do morals. This history and such happenings as jake poisoning have nothing to do with morality. That jake poisoning affected clandestine drinkers is merely an accident. The next accidental poisoning may be as strictly limited to those who are patterns of good works.



Vitamin A

I've drawn for you, the best that I can,
A dear little, queer little Vitamin Man.
Now Vitamin A is a bright merry fellow;
He's mostly composed of the green foods and yellow.
His body is made of a round golden cheese;
His head is a big yellow yam, if you please;
His arms are long carrots, his legs golden corn;
His feet—why they're string beans, as sure as you're born!
His belt is of egg yolks and peas on a string,
His hat is of spinach, and he's nibbling
A mound of fresh butter. Now you nibble, too,
The foods that he's made of, and I promise you
The Vitamin Elves who in all these foods dwell
Will make you grow strong and will help you keep well.

—Edna Becker.

"On the Feet of Little Children"

By MARGARET McEACHERN

RED HEADED Tommy Brown, to the intense amazement of every one who knew him, had developed into that most baffling of figures, a "problem child."

Almost overnight, Tommy had changed from a laughing, energetic, typical American boy into a sullen, nervous, listless child. He lost his appetite. He no longer cared to play Indian or cowboy with "the gang." He could not concentrate on his school lessons or even on his beloved baseball team; and when a 9 year old boy loses interest in baseball, there is something radically wrong with him.

Tommy's mother was the first to notice the change. She was an intelligent mother. She did not scold him for not studying. She did not insist that he drink his milk or eat his spinach. She did not force him to go outdoors and play with the boys. She simply sat down and had a casual little talk with him.

Tommy himself knew that something had happened to him; but what it was, he could not say. He told his mother frankly how he felt. He was tired all the time. He had headaches. Headaches! Mrs. Brown promptly decided she had discovered the root of her little boy's trouble. His eyes needed attention.

She took him to an eye specialist. Maybe he needed glasses. The specialist, however, reported that there was nothing wrong with Tommy's eyes. Some other condition was causing the headaches. He suggested a visit to the family doctor.

So to the family doctor went Mrs. Brown and Tommy. Tommy was subjected to a thorough examination, at the close of which the doctor shook his head, puzzled. A doctor of the old school and a lifelong friend of Mrs. Brown, he expressed himself frankly. "There's something wrong with the boy, but I'm darned if I can find it!" was his verdict.

"But Doctor," Mrs. Brown protested, alarmed, "we must find it! Tommy can't go on like this!"

The doctor rubbed his chin thoughtfully. Then his face brightened. "There's just a

IF A CHILD TENDS TOWARD THE OUTFLARED POSITION, HAVE HIM PRACTICE WALKING A STRAIGHT LINE. YOU CAN INVENT A GAME SO THAT HE WILL NOT CONSIDER IT A TASK.

THE YOUNG MOTHER IS NATURALLY PROUD WHEN HER BABY BEGINS TODDLING ABOUT, BUT SHE MUST REMEMBER THAT THE BABY'S BONES ARE PLIABLE AND THAT THE MUSCLES AND LIGAMENTS ARE LACKING IN STRENGTH.

chance it might be his feet," he declared. "Tommy, let's see you walk across the floor."

Tommy was just as surprised as his mother, but he obediently walked across the floor. The doctor gave a satisfied grunt. For the first time in years, Mrs. Brown was paying attention to her son's feet and to his walk.

The child had a curious little walk. He toed in so much that it was distinctly a case of "pigeon toe."

"Why, I never noticed Tommy toed in before!" Mrs. Brown exclaimed. "But surely that couldn't account for his present condition, could it?"

"Without doubt, it is the sole cause of his trouble," her doctor told her. "As you know, our muscles and ligaments maintain the balance of our bodies. Any abnormal deviation of the foot in weight bearing may result not only in flatfoot but in more serious impairment of the health. In children it may result in drooping of the shoulders, spinal deformities, backache, headache and nervousness. It is often a cause of backwardness in school, that all-tired-out feeling and a loss of appetite."

He told Mrs. Brown much more. He told her how to correct Tommy's posture and walk. The result was that in an exceedingly short time, Tommy was again his natural, mischievous self.

All men and women need good, strong feet to take them triumphantly through life. Corns, bunions, flatfoot and fallen arches are painful deformities that take their toll in loss of comfort, ambition and general health. However, they are deformities which could have been avoided.

Most of the distressing foot troubles that bother adults could have been prevented by attention to the feet in childhood. Every mother should care for her child's feet, beginning as soon as he has learned to walk. The first lesson she should learn is to exercise restraint rather than encouragement in early walking. The young mother is naturally proud when her baby begins to toddle about, but she must remember that the baby's bones are pliable and that his muscles and ligaments are lacking in strength. This strength is gained by use, naturally, but such use should come about gradually. Heavy children, especially, should not be allowed to walk too early.

How can any abnormal deviation of the feet be prevented? Given a normal foot, the prevention is accomplished by correcting wrong habits of muscular action in the posture of the feet, while the muscular system is immature. As soon as the child shows an inclination to develop the wrong position of the feet, correction should begin.

What is the correct position of the feet in walking? The answer is simple. The normal position in bearing the weight of the body is when the toes point straight forward. In this position one can step squarely on the feet, and the weight of the body is equally distributed. In this position the feet have their greatest elasticity, and the arches can perform their full

function without straining. The straight foot is the ideal. It is deviations from it that usually start the child on the road to some foot distortion in adult life.

Two essentials make for the preservation of normal, healthy feet. One is correct posture; the other is correct dress. That is easy to understand when one considers the purpose of feet. The bony skeleton supports the body weight, and the feet are the base of the framework. They support all the superstructure. Since each bone in the skeleton joins another bone and since all are held together by muscles and ligaments, the feet, as the base of the whole structure, have an important bearing on the general poise and posture of the body.

It is interesting to examine your own feet. Remove your shoes, and stand with the toes turned outward at an angle of about 45 degrees. You will discover that the weight of your body is inclined toward the inner side of the soles of your feet. Your heels are tilted inward and the arches downward. Your heels do not come within the axis of your legs. You will find that the ankle bone and the portion of the foot immediately beneath it tend to bulge. When the feet are turned outward, the rotation of the legs puts a strain on the muscles, and this can be felt distinctly at the knee.

What does all this mean? It means simply that exaggeration of any of these conditions, as in time is the case, leads to trouble. Taken collectively, they will injure the health of the whole body.

Now stand the correct way. Have your feet parallel. What do you find? The body weight is distributed, and your entire foot is put into use. Your ankles are curved normally, and your muscles are not overstrained. That proves that Mother Nature meant that you should walk with your feet parallel, toes pointing forward.

If you assume the position of "pigeon toe," you will find that the arch of your foot assumes a high curve and that more of your weight is thrown to the outside of your foot. The whole natural balance of your body is disturbed.

Childhood is the time to get at the root of any trouble. Mothers should keep strict watch on their children's feet. If a child tends toward the outflared position, have him practice walking a straight line. You can invent a game so that he will not feel he is doing a task.

Some deformities may need mechanical appliances, as no amount of home training can correct them. They are problems for the orthopedic doctor, not for the talkative shoe salesman. All too often, mothers waste both their time and their money by listening to the glib sales talks of young men who know nothing about feet.

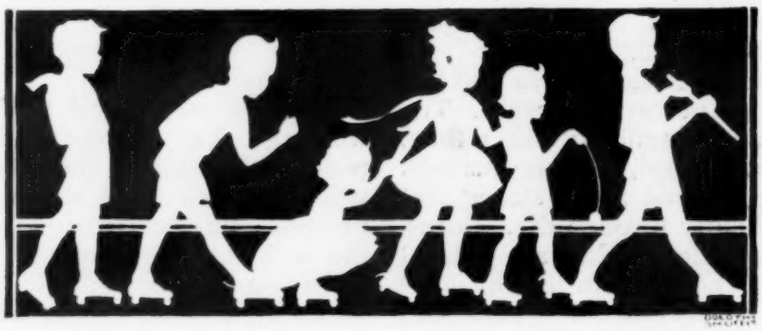
Shoes have a great deal to do with the posture of the rest of the body as well as with the feet themselves. It is after the sixth year that the child begins to attain the adult type of foot. Great care should be exercised in the selection of shoes. They must be large enough to give the toes ample room. They should be broad across the toes. When the shoe is too narrow, the small toes, being the weaker, are crushed together. This causes discomfort and makes the child walk on the outer edge of the shoes. A shoe that is too short will cause a bunion.

Stockings must also be purchased with care. A stocking that is too short will make the toes curl under. It is wise to have the stockings a half size too large. Contrary to expectation, this will not cause wrinkles, for the natural expansion of the active foot will fill out the extra space.

The child should be taught to change his stockings often and to wash his feet after an afternoon of play. He should use the towel briskly between the toes to absorb perspiration and thereby avoid soft corns.

Bargain sales of shoes and stockings should be avoided. A cheap pair of shoes, badly made, is all too often the factor that results in lifelong foot trouble. Active youngsters can run up a high shoe bill in a year, but no price is too high that will insure them strong, healthy feet for the rest of their lives.

Children who in early life have suffered from malnutrition and rickets are especially prone to weakness of the muscles of the feet. This weakness of the feet is also not uncommon among children who have grown so rapidly that the muscular development has not kept up with the body growth. Children must be encouraged toward the natural development of other muscles tending to strengthen the foot muscles. Running, jumping rope and dancing are good forms of exercise, and some of the standardized exercises for the correction of weak foot should also be practiced.



Century-Allen

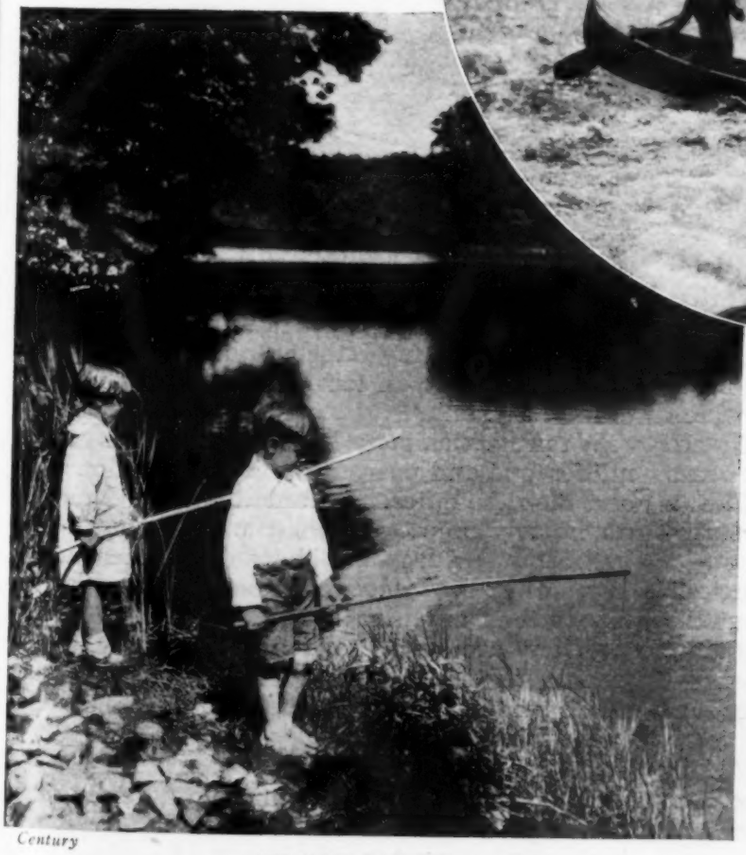
WHEN DO WE EAT?

Mitchell

ONE, TWO, THREE—!

Cy. La Tour

WITS AGAINST WATER



Century

WE HAVE ALL DAY—

AUGUST—

Summer in full bloom—River, lake, woods and garden provide intriguing, happy scenes before the autumn curtain falls once again.

A MODERN ALADDIN'S LAMP

By J. F. Rogers

STILL I GREW. HOUSES BECAME MERE TOYS, AND GREAT FORESTS WERE ONLY PATCHES OF GREEN.

Chapter I

THE SIZE of BACTERIA

ONE RAINY day I settled myself with an interesting book in a cozy chair in my father's study. The book was about bacteria, germs, or microbes, as they are often called, and how they cause diphtheria, measles and many other diseases. When I told my father what I was reading he went to a closet and brought out his big microscope of which he is so careful. He took a small piece of glass from a box and placed it under the long brass tube of the microscope, which looks like a cannon pointing up at the ceiling. After turning some screws very carefully, he told me I might look into it. I peeped through the tube but could see only some tiny specks about the size of commas or dashes used in punctuation.

"I don't see anything, Father," I said, "except some things that look like tiny pencil marks running in every direction."

"Those are microbes," my father said. "They are just what you are reading about. They are larger, a thousand times larger as you see them through the microscope, than they really are."

"They seem hardly worth looking at," I remarked, "and I don't see how such insignificant things can do the great harm the book says they can."

"You cannot always judge things by their size or appearance," my father replied. "I am going out now, and I will leave the microbes for you to look at again."

When he was gone I took the chair near the microscope and peered into it with first one eye and then the other. I counted about a hundred of the tiny objects. I tried to make out heads and arms and legs, but there didn't seem to be any. They really looked more like tiny pencil marks than anything else.

"They are small enough now," I said to myself, "and it doesn't seem as if they could be much smaller. I wish I were made a thousand times bigger than I really am; then maybe I could know how tiny the microbes are."

As I said this, I rubbed my hand gently over the bright brass tube of the microscope to make it shine a little more. Suddenly I heard a voice,

which seemed to come out of the microscope, say, "You shall have your wish!"

I looked around, but there was no one to be seen.

"You shall have your wish!" the voice said again. "For I am the magnifying spirit and can make small things as great as they wish to be."

I had been reading "The Arabian Nights" and now realized that, in rubbing the brass tube of the microscope, I had called forth one of the wonder-working genii of which I had read, but which I did not realize were actually in existence today.

"I thought that all the genii, enchanted horses and such things had long since passed away," I said.

"That is where you are mistaken," said the voice. "We are all working for science these days, and we are as powerful as ever. Why, I have just made some microbes that are invisible to your coarse eyesight so large that you can see them very plainly. I have made them seem a thousand times larger than they really are."

Since the voice was pleasant and good tempered, I felt quite at ease in replying, "I'm not very good at figures, and anyway the microbes seem so small even after you've made them appear so much bigger than they naturally are."

"Suppose now," said the voice, "I should make you a thousand times larger than your real self. That would be a good lesson in figures, wouldn't it?"

"Oh, yes!" I cried, "that would be fine! I suppose it would be something like the experience of Alice in Wonderland. If I could be made a thousand times bigger than I am, I could then appreciate how much larger than their real selves are the tiny things I see under the microscope."

"You shall have your wish," said the voice in a commanding way. At once I began to feel that some change was taking place. The first definite sign that told me I was becoming larger was that my waist band began to feel as it does after a Thanksgiving dinner; then my collar and my shoes began to seem too small.

"I'm afraid you will have to loosen my clothes," I complained, "for they are getting uncomfortably tight."

"Oh, yes!" returned the voice. "I forgot about that. You see I am not in the habit of magnifying things that wear clothes."

As I tried to take another peep through the microscope I found I had to stoop considerably. When I straightened up again I nearly touched the ceiling.

"What are you going to do about the ceiling?" I asked in some alarm.

"You do the growing," the voice said somewhat curtly, "and we will do the rest."

Just then the ceiling disappeared; and in a few minutes the roof turned back as if it were on hinges, and I was looking out over the surrounding country. On I went, growing steadily. From the height of the tallest trees my father's desk seemed a mere toy at my feet. A small point of light, reflected from the brass where I had rubbed it, was all that I could see of the big microscope. I felt something pinching my feet, and I heard the voice say, "This granting of wishes makes lots of trouble. I shall have to take down the walls for his big feet."

Looking down I saw that the walls were disappearing and that my feet were resting on the ground. When I looked at my hands, which had grown in proportion, I thought, "My! It looks as if I am to be another Polyphemus, but I shall not be a one-eyed one, and I shall not eat human beings."

Although as yet I could not look down on the church steeple, I said to myself, "I'll soon be a thousand times larger than my natural size."

"You shall have your wish," said the voice as if in reply. Still I grew. Some people driving by in an automobile appeared so very tiny that if I grew much more I would need a telescope to see them at all. Houses became mere toys, and forests were only patches of green. The wind whistled through my hair, and the air about my face became uncomfortably cool. I began to feel very queer.

"I must be about big enough," I thought. The genie must have read my mind but he only said, "You shall have your wish."

Just then my eye was caught by a big birdlike object which came sailing toward me. It was an airplane. The aeronauts were busy taking measurements and did not see me. As they passed I heard one remark, "We are now half a mile high!"

"So I am a half mile high," I thought, "and not yet magnified as were those tiny germs under the microscope."

Still the earth grew more distant, and indeed for a time it disappeared entirely. I was frightened until I happened to think that I might be above a cloud. It was painfully quiet, and there seemed to be nothing but stillness and cold and my enormous body, which was as big as a mountain.

The stories of Thor, one of which told how that hero had slept in the thumb of the cast-off glove of a giant, did not seem impossible, had the giant been only half as large as I now was.

I was beginning to feel very lonely up so high when I heard the voice cry out, "Hold, it is enough. He has had his wish, for he is almost a mile high." So rapid had been my growth that I had hardly thought much about it, but on learning that I was of such tremendous proportions I suddenly became faint and dizzy. Next I felt myself falling, faster and faster, until I heard the same voice saying, "This is his usual size." Suddenly I found myself sitting at my father's desk as before.

(To be continued)

New Books on Health

COMMUNITY HYGIENE

By Laurence B. Chenoweth and Whitelaw Reid Morrison. First Edition. Cloth. Price, $2.50. Pp. 317, with charts, tables and illustrations. New York: F. S. Crofts & Co., 1934.

THIS IS a textbook for college students who require knowledge concerning the control of preventable diseases. After considering the extent of illness and mental and physical defects, the authors discuss the modes of transmission of communicable diseases, the means of controlling dissemination by insects, animals and wastes, and then specifically the control of certain diseases. The final chapter deals with public health administration, and each of the chapters is supplemented by lists of useful references for further study. The material is sound in its development and sufficiently concrete to meet the rather limited need it is planned to fill.

MORRIS FISHBEIN, M.D.

PRINCIPLES OF GENETICS AND EUGENICS

By Nathan Fasten, Ph.D. Cloth. Price, $2.80. Pp. 407. Illustrated. Boston: Ginn & Co., 1935.

FOR advanced high school students or for junior colleges or for the adult reader without much background of scientific education, this is an excellent book. It deals in a clear and well organized manner with the theoretical considerations of genetics and eugenics and their practical application. The book deserves a place on the shelves of the general community library, where it will be useful to many different groups. The author has succeeded in combining in this book a clarity and simplicity of treatment which will make it useful to the beginner, and a completeness which will make it satisfactory to the moderately advanced student. It is not, of course, intended as a medical textbook or as a source book for the advanced worker.

W. W. BAUER, M.D.

SWIMMING ANALYZED

By Gertrude Goss. Cloth. Price, $2. Pp. 114, with illustrations. New York: A. S. Barnes & Co., 1935.

IT IS a far cry from the early days when swimming instruction consisted of "dangling the pupil on a rope suspended from a crane and then pushing the crane up and down the pool while the pupil maneuvered as best she could on the surface of the water." Today swimming instruction is an exhilarating progression from the practice of simple strokes and the learning of stunts and games to the mastery of more complicated strokes and the intricacies of formation swimming.

This book gives an excellent, concise analysis of the various grades in the curriculum. The material is exceptionally well organized and is presented with an economy of phrasing which makes for ease of comprehension and facility of application. The chapters devoted to beginning swimming, low intermediate, high intermediate and advanced swimming afford instructions that are diagrammatically clear, both as to wording and as to illustration. "Stickmen" drawings illustrate the various steps and strokes. Carefully planned teaching methods, games, stunts, land drills and water drills which mark the pupils' advance in skill are provided. Common faults to be avoided or corrected are indicated, and a lesson plan consisting of ten half-hour lessons to be given twice a week is outlined at the end of each chapter. The chapter on advanced swimming includes also sections on training for competition, organization of swimming meets and a possible swimming meet program.

Novel suggestions are given in a chapter on formation swimming, and a detailed outline of instruction forms the chapter on modified water polo.

The concluding chapters deal efficiently with those important subjects, care and sanitation of swimming pools, and epidermophytosis, or "athlete's foot."

LEOLA J. HARRIS.

THE PHYSICAL AND MENTAL GROWTH OF PREMATURELY BORN CHILDREN

By Julius H. Hess, George J. Mohr and Phyllis F. Bartelme. Cloth. Price, $5. Pp. 449. Chicago: University of Chicago Press, 1934.

THIS VOLUME, which is essentially a symposium on the care of the premature child, is a most practical and useful work, based, as it is, on a study of almost 2,000 prematurely born and congenitally debilitated children. The developmental studies indicate that the premature child catches up with the child born at term. A number of special studies on intracranial hemorrhage, blood pressure, heart disease, syphilis, anemia and the cerebrospinal fluid complete the volume.

M. F.

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Thinking Straight About Health

THE EIGHTH ARTICLE IN A SERIES ON THE CLASSROOM TEACHER AT WORK

RECENTLY in a question box appeared the following queries from one who signed herself "A Puzzled Teacher": "How can I teach my pupils to do some real thinking about matters pertaining to their own health? For years I have been teaching physiology and hygiene. I have been careful to select good textbooks and to tell the children many interesting stories about health heroes and health achievements. They have passed good examinations, but I am very much disappointed in their ability to think for themselves. It seems to me that in days gone by children used to do much more thinking than they do today. Are children today less capable of thinking or are our methods of teaching at fault?"

These are natural questions for almost any teacher to ask in a critical mood. Fortunately they can be answered if one has a little historic perspective. In spite of much that has been said about the thinking that was encouraged in the schools of a generation ago there is little evidence that such was the fact. A generation ago a great deal of emphasis was placed on the teaching of Latin and mathematics because of the belief that such discipline in thought training would be valuable not only in other subjects but throughout one's life. This theory, often referred to as the doctrine of formal discipline, has been greatly discredited by psychologists. The fact is that the work of the old school was based almost entirely on memory. I recall few situations in my own schooling in which I was called on to "think" in history, geography or physiology. In those days the problem method of teaching was not yet in use.

Of course children are just as capable of thinking today as they were in days gone by. The capacity to think depends primarily on brain power. There is no evidence of any perceptible change in the human brain over thousands of years.

In spite of many severe criticisms of the modern school, children in our best schools are being taught to think today as never before. If the writer of the questions is favorably affected by the best practice in our schools, as she probably is, her pupils are probably doing a great deal of serious thinking. The query as to why they do not do more effective thinking concerning practical problems doubtless arises because the children are not stimulated enough to cope with real problems. They may be solving health problems on paper or in discussion, but they are not sufficiently guided to attack real health problems arising in home and school.

As all thinking starts with the consciousness of a problem and a desire for a solution, thinking straight about health should have a beginning in a felt need. It is desirable to plan to get pupils to discover the need or problem. For example, one teacher who knew that the ventilating system was not working well waited until a day came when all the pupils were uncomfortably conscious of the air conditions in the room. Then she stimulated an inquiry. The result was that the seventh grade boys worked out a plan for improving the operation of the fan. The room was made much more comfortable. The pupils also became much more interested in temperature, moisture and ventilation in general.

On one occasion a boy was injured in a ball game and had to be sent to a neighbor's house to have a dressing applied. The need of first aid equipment was keenly realized. The pupils began to collect information as to what should be included in a first aid kit and to assemble a kit for the school. This necessarily involved some real thinking.

If the "Puzzled Teacher" will carefully consider the actual health needs of her pupils at school and then stimulate them to attack those problems intelligently she will soon find that they are capable of doing effective thinking.

Some Fun with Superstitions

ARE YOU superstitious? Probably you think you are not. You recall the many years you were in school, the courses you had in science and how cautious you are now about accepting unfounded beliefs. Doubtless you have an open mind and will be interested to find out just how free you may be from superstition. There are still several weeks of vacation. For a bit of additional recreation, turn to a most interesting book "Do You Believe It?" by Otis W. Caldwell, Ph.D., and Gerhard E. Lundeen, M.A. (Doubleday, Doran & Co., New York). Beginning on page 202 you will find 100 statements. If you agree with any one of them, mark that statement A; if you disagree, mark it D. Here are a few of the statements:

Considers the howling of a dog at night as a sign of death soon to come.

Believes that people who have red hair have violent tempers.

Considers sickness as a punishment for wrong doing.

Believes that an itching nose means that company will soon come.

Knocks on wood after telling about his good luck.

Has his hair cut during the new moon.

After adding the number of A's and D's you may be surprised to find that you are really superstitious. The score made by some 691 junior high school pupils re-

vealed that 19.5 per cent of these pupils believed that sickness was a punishment for wrong doing. More than 54 per cent said they knock on wood when telling about good luck. This is an ancient superstition that goes back to the time when men lived in wooden huts and were haunted by the fear of evil spirits. Primitive people believed that these spirits became jealous and angry when human beings were prosperous and happy. Therefore they thought it wise to make so much noise by knocking on wood that the evil spirits could not hear what was being said.

Caldwell and Lundeen, who are teachers at Teachers College, Columbia University, suggest that since one of the aims in general science is to teach boys and girls to think straight, these superstitions should be considered and combated in a carefully planned course of study. Their ideas are set forth in detail for teachers in "An Experimental Study of Superstitions and Other Unfounded Beliefs," issued by the Bureau of Publications, Teachers College, New York.

This practical suggestion merits careful consideration by all teachers, especially those in the upper grades and high school. As Caldwell and Lundeen do not review many superstitions dealing with health and disease the reader may read with profit "Shattering Health Superstitions" by Morris Fishbein, M.D. (Horace Liveright, Inc., New York). In this intriguing volume are listed and discussed some fifty-seven superstitions such as "If you break out with pimples and boils, it's just the meanness coming out."

After discovering just how superstitious you are it might be well to make up a test on health superstitions for your pupils in September. As a result new health objectives in your health teaching for next year may be found.

SOLVING HEALTH EDUCATIONAL PROBLEMS

MAKING CLEANLINESS ATTRACTIVE

B. HOLMES, R.N.
Purchase Nursing Committee
PURCHASE, N. Y.

The alert teacher is never at a loss to find opportunities for practical health projects. Read about this interesting and unusual "bathroom project."

FOR several years the "Girls Home Nursing Classes" have been part of our nursing program during the summer. In recent years the classes have become a weekly activity throughout the year.

Some time ago the children ranging from 6 to 10 years of age also wanted a "class." The need for this arose about Christmas time. It was a question as to what should be done. One of the members of my committee had had the bathroom in her home enameled. This bathroom, it was decided, offered suggestions for a program of action for these enthusiastic little folk.

Cleanliness was one of the first subjects discussed. The need for order was made emphatic. The girls made towels, face cloths and rugs. Gradually all the necessary equipment was assembled and put in place. A small class of boys made a cabinet for the linen.

In our health activities we make use of dolls. A tooth-brush chart was placed on the wall. There "Miss Dolly" checks up the number of times that she cares for her teeth. The girls take turns cleaning the bathroom, doing the laundry work and making new articles for the project.

In a play recently given by several groups the bathroom projects and several activities of this group were brought in. Two of the important slogans, "See your dentist twice a year" and "Have a health examination yearly," were dramatized. The children acted as dentist and doctor respectively.

At the end of each class meeting the children take turns in drawing a slip from a "secret box." This slip suggests the activity for the following week.

PRACTICAL METHODS OF INSTRUCTION IN HYGIENE OF THE MOUTH

MARY S. BATCHELOR
Division of Oral Hygiene, North Carolina State Board of Health
RALEIGH, N. C.

School dentists who know not only the science of dentistry but also child psychology make the teaching of oral hygiene in the schools of North Carolina practical. Miss Batchelor describes some of the methods that have proved successful.

THE division of oral hygiene of the North Carolina state board of health has for its objective the educating of the children of the state in the value of a clean, healthy mouth and its importance in the prevention of disease. To this end the board has carefully selected a staff of fifteen dentists for the purpose of teaching oral hygiene in the public schools of North Carolina. Many of these dentists have had special experience in children's work, and all of them are trained to teaching preventive dentistry.

Realizing that instruction by visual means is one of the strongest of all teaching methods and is the method that is most easily grasped by the child, the oral hygiene

division has worked out a program of visual education to be used in the classrooms and has equipped each member of the staff with placards, plaster models and stereopticon slides to be used in illustrating the lectures. The lectures, which are given in the form of stories, are selected for their appeal to the various age groups. Since it is agreed that the first signs of undernourishment are apparent in improperly calcified teeth and poorly developed jaws, foods and food values in the building of sound teeth form a large part of the classroom talks. The child is taught that without the proper foods with which to build and maintain his teeth, all the cleaning and correction in the world cannot give him a clean, healthy mouth.

The personal element in teaching mouth health deserves a great deal of attention. There is one trait that all men have in common: they are interested in what pertains to themselves. The child is no exception. One might talk to him at great length about "mouths" in general, and he would possibly be thinking of the afternoon ball game or a moving picture show. But if the dentist talks to him about his own mouth, his own teeth and the food that he eats, he is all attention. Persons trained in child psychology, as are our staff dentists, know the value of making every lesson appeal to each child and of making the child feel that his own special problem is being considered. With this personal approach the child is ready and eager for the lessons to be learned.

Realizing too that actual demonstration is visual education in its most powerful form the dentists on the staff make dental corrections as a means of further reinforcing the lessons taught in the classrooms. However, when one considers the vast number of children examined by the school dentist it is readily understandable that only a small percentage of them may benefit by this demonstrative teaching. It was necessary to devise some plan whereby those in greatest need of immediate extractions and fillings might benefit by this phase of the educational program. The plan now in effect limits dental corrections to children whose parents are unable to pay for dental attention. The dentist takes particular pains to see that the child understands the need for corrections, showing him exactly what he is going to do and later what he has done.

That such a procedure is the best health teaching, serving to make an indelible imprint on the mind of the child who is so fortunate as to receive it, is illustrated by the following letter, written by a little girl in one of our rural schools to

H. Armstrong Roberts

the staff dentist working in that county:

"Last year before you came out to Casey's Chapel School to work on our teeth, my tooth ached very much. I did not feel like working in school. When you came, I did not want you to pull my tooth, but my teacher went to see mother about it. She came back and told me mother wanted it pulled, so I went in and let you pull it. After you pulled my tooth, I felt like another little girl. I like to do my work now. Now I want to thank you very much for pulling my tooth. I think it was nice of you to come out here and fix our teeth."

The little girl's teacher forwarded the letter just as it was written, with a letter of her own stating that, following the dental work referred to, the child's attendance and school work as well as her general manner and attitude had improved. She further stated that instead of the failure which had seemed probable, her pupil was doing splendid work and was unusually interested and happy. There is little doubt that the school dentist's little friend and her schoolmates learned one lesson thoroughly.

While not every case offers such a striking example, letters of thanks for the service are constantly received both from school children and from teachers. The school teachers are increasingly aware of the value of such health educational methods and they are making it their responsibility to see that interest in the activity is not allowed to drop as soon as the dentist moves on to another school. With health plays, poster contests and other interesting means the teachers are following up the dentist's work and are keeping the value of a clean, healthy mouth constantly before the child. Definite progress is being made in educating the children of this state in matters pertaining to health, and through the children we hope ultimately to educate the parents.

HEALTH TEACHING IN A SECOND GRADE

ESTHER SIMON
MARINETTE, WIS.

The new health teaching in the lower grades has grown to be more and more popular with the children. Miss Simon tells about the variety of activities that may be introduced into a second grade.

OUR ROOM was presented with a folder containing several health pictures. I placed the folder on the reading table, and these pictures soon became the center of interest in our room. We talked about the pictures, and the children started to bring other pictures to add to the collection. During a conversation period one day a child suggested having a health club. After a short discussion the children decided to call themselves "The Happy Health Club." Since the members wished to have a daily health inspection the following points were suggested:

AM I READY FOR SCHOOL?

1. Are my hands and face clean?
2. Are my finger nails clean?
3. Are my teeth brushed?
4. Is my hair combed?
5. Have I a clean handkerchief?
6. Are my clothes neat and clean?

Every child received a printed slip containing these rules to take home. Inspection was made daily by a child "doctor" and "nurse." Stars were given to the children who carried out the rules.

For five months a carefully planned phase of health work had its special place on our daily program. Many stories and pictures were used to drive home certain desirable health truths. Pictures brought by the children were neatly cut out and later used to make large posters and booklets.

The children made up stories and poems regarding the development of cleanliness habits as well as rhymes such as the following:

A carrot from the ground.
Will make the body sound.

Drink some water every day,
Then you'll be happy and gay.

Bread and butter make us strong,
So that we will all live long.

Health riddles were also contributed:

I am white. The milkman brings me. What am I?

I am round. I am red. I grow on trees. What am I?

I live in your mouth. I am white. What am I?

I am yellow and round. I grow on vines. I am used for pies. What am I?

Two health plays were written and dramatized. Health stories were copied and illustrated, and the children learned how children in other lands keep clean.

During the art period they made posters and booklets, and continued their health projects, one of the most unusual being a health train. The main part of the engine was a milk bottle with oranges for wheels. The rest of the train consisted of flat cars on which fruits and vegetables which the children had cut out were piled high.

Before school closed, the children wished to have their mothers see what their club had accomplished, so they decided to have a program. The costumes used for the two plays presented on this program were designed and made by the children.

The project was highly successful. By the end of the year the children knew why they must wash their hands and keep their bodies clean. They were more careful about having their clothing as neat and clean as possible. They tried to drink at least one pint of milk each day. Mothers reported that their children were eating more fruits and vegetables and that they made an effort to be in bed by 8 o'clock at night. The children knew that they should walk, run and play in the fresh air to keep healthy. The health habits which these children learned contributed to their happiness as well as to their health.

PLANNING NEXT WINTER'S HOT LUNCHES

HELEN McDIVITT
BOVINA CENTER, N. Y.

Careful planning helps to make health teaching effective. Miss McDivitt, a teacher in a rural school, found that it paid to plan hot lunches for the children.

COLD WINTER weather used to find us planning a hot lunch scheme to be started the following day or week at the most. We tried many schemes with varying degrees of success. Finally it was decided to include the hot lunch plan with other definite plans, such as transportation, textbooks and other supplies, setting aside in a tentative budget a carefully planned sum to be used for that purpose.

Ours is an ordinary rural school rather well equipped. The twenty-five pupils come from an average community with all degrees of cooperation. We tried all the well known schemes, such as having the pupils bring their lunch in a pint can and then warm the cans in hot water. This arrangement was perhaps the easiest handled, except that the pupils who most needed the hot food failed to bring anything. Various mothers tried preparing the food for the noon hour but found it difficult to prepare food for some twenty-five persons. Often they forgot to prepare the lunch, or it was insufficient in quantity, poorly prepared and of little nutritive value. Bringing raw food from home and preparing it at school was an even harder task, since the building was small and it was necessary to have an exceedingly hot fire in order to cook the food.

All this time, however, we realized that hot food was essential to the health and to the disease resisting ability of the children.

Finally carefully planning a menu for a two week cycle we found that we could provide each pupil with a cup of hot food for 2 cents a day. Beans and potatoes were omitted from the food list because starchy food was too big an item in most of the home diets.

The plan in use was as follows: Monday, corn and celery soup; Tuesday, spinach and carrots; Wednesday, cocoa and clam chowder; Thursday, vegetable soup and peas; Friday, asparagus soup and tomato soup.

An interesting phase of the lunch plan was the correlation with geography. At the completion of a unit we served a food which was associated with the place we had been studying. After doing some work on salmon fishing, lunch consisted of escalloped salmon; a study of New England was followed by baked beans, and so on.

At recess time the cans were opened and the vegetables were put in a big stew kettle on the stove, which was a square boxlike affair. About five or ten minutes before noon we added milk or a thin white sauce and put on a little extra fuel, and everything was piping hot at noon. Each child was given a cup of soup, which he supplemented with his own sandwiches. Certain pupils were delegated to take care of the dishes for each week's cycle.

The most tangible result of the plan was not so much the uniformness of the lunch or the elimination of several disturbing factors of the old noon hour systems as the fact that during the second year's observance of this plan there were no absences of more than one day.

To Contributors: — *The editor of the School and Health Department will be pleased to receive articles dealing with the solution of concrete and practical health education problems in the school. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

NEW HEALTH BOOKS
for teachers and pupils

LEARNING TO BE LIKABLE

By Gary Cleveland Myers, Ph.D. Pp. 128. Columbus, Ohio: School and College Service, 1935.

TO KNOW and feel that one is liked by others is one of the greatest joys of living. Without such knowledge and feeling one tends to become morbid. This important problem of mental health appears among children, and if it is not solved satisfactorily it may result in serious maladjustment. To assist boys and girls who need help in learning to be likable, Dr. Myers has written this stimulating little book. Teachers and parents should put it on the list of books that they are going to read and perhaps eventually buy. It is packed full of suggestions on healthful living and is well seasoned with common sense.

PSYCHOLOGY OF WANTS, INTERESTS AND ATTITUDES

By Edward L. Thorndike. Price, $3.50. Pp. 301. New York: D. Appleton-Century Company, 1934.

WITH THE spirit of the pioneer, Dr. Thorndike continues to experiment in the field of the psychology of learning. This volume deals with some of the most vital problems in education, but much of it is dreary reading for the teacher who seeks guidance and not a recital of facts and figures. A closing chapter in which the final conclusions of the author's study might have been surveyed and their applications pointed out would have been welcomed.

To the student who is willing to read with care there is rich ore to be mined. Probably Dr. Thorndike's statements about punishment are of greatest significance. He affirms that sometimes punishment strengthens rather than weakens a connection. Punishment compares

unfavorably with reward in dependability. He questions the method of learning which is made so emphatic in progressive education; namely, that it is desirable for children to learn through their own errors. Sometimes the learner's self punishment when he makes a mistake may be no better than the undesirable reactions made in experiments. Much time also may be lost. One of the greatest problems in learning is to make good learning or the right responses satisfying. Here is a valuable thought for the health educator.

TRAINING IN PSYCHIATRIC SOCIAL WORK

By Sarah H. Swift. Price, $1.75. Pp. 177. New York: The Commonwealth Fund, 1934.

THE GROWING interest in psychiatric social work among educators should make this book interesting to teachers who wish to know something about the theory and practice in an institution in which preparation is given for leadership in child guidance. It is a straightforward presentation of what was done at one institution.

HOME-SCHOOL-COMMUNITY RELATIONSHIPS

Prepared from suggestions of teachers in Cattaraugus County, N. Y. 6 mimeographed pages. Olean, N. Y.: Bartlett Community Center.

THIS BULLETIN is a report of progress in a rural community. It is divided into five parts as follows: Some Teachers Visit Homes; Parents Are Invited to School; Children Take Ideas Home; Mothers' Clubs and Community Groups Are Helpful; The Public Health Nurse Is Invaluable.

Among these reports are the following, which have been taken at random:

I often visit the homes, trying to get to each one at least twice a year. On these visits I discuss the child with the parents, bringing up such matters as the report of the doctor's examination and the child's social habits.

We built a miniature home at school, emphasizing problems of health in connection with it. We displayed what we had made at an entertainment to which the parents were invited. The mothers seemed interested, and some even said that I had helped their children along health lines by this method.

TEST OF HEALTH AWARENESS FOR USE IN SENIOR HIGH SCHOOLS

By William E. Cottle, Ed.M., and Fredrika Moore. 8 typewritten pages. Boston: The Commonwealth of Massachusetts Department of Public Health, 1935.

MUCH OF modern teaching is done in the dark. So little is known about the knowledge, attitudes and points of view of our pupils. Effective teaching demands clearcut aims based on facts.

With these things in mind, Superintendent Cottle and Dr. Moore have organized this interesting test on health awareness. It contains 135 items, chosen from health teaching in connection with courses in English, social studies, foreign language, mathematics, science and practical arts. Consideration was given to the following topics: (1) health equipment necessary for success in earning a living; (2) health equipment necessary for good citizenship, and (3) health equipment necessary for successful family life.

Among the popular fallacies listed by the authors are the following, which have been taken at random: Tuberculosis is hereditary. Standing is more fatiguing than walking. Adults are benefited by the stimulation of cigaret smoking. Complexion lotions make a beautiful skin. What science tells us today will necessarily always be true.

This test is being given in many high schools throughout the state of Massachusetts with the idea of further standardization. Such a test should be valuable in determining each student's difficulties and in the discovery of omissions in high school teaching. Teachers who wish to organize similar tests will find this pamphlet helpful.

EVERYDAY HEALTH ACTIVITIES IN RURAL SCHOOLS OF THE THIRD ADVISORY DISTRICT OF ERIE COUNTY

Pp. 26. Buffalo: School Health Service, Buffalo Tuberculosis Association of Erie County, 708 Ellicott St.

THERE is so much printed matter on health education that descends to the commonplace and the dull that it is distinctly refreshing to pick up this teachers' bulletin and guide. The bulletin is the result of a year's cooperative effort to place in the hands of teachers, material on the integration of health teaching in the daily program. This material was prepared by a committee of the group of teachers involved.

The philosophy underlying this program is the belief that "Health is a way of living." Early in the school year the teachers made a careful study of the health needs in their respective schools. This was accomplished by health habit questionnaires, self surveys of school health conditions, home visits and observations of health practices of individual children. The program of health teaching grew out of the health needs discovered. In this bulletin the committee discusses ways and means of developing health attitudes and behavior based on the needs of the individual child. The first two principles of the health education theory are:

"The home, school and community program, all three, should cooperate to make possible satisfactory standards of healthful living during twenty-four hours of the child's day."

"The school environment should provide opportunities to perform health practices under favorable conditions so the desired habit may be established. We learn by doing."

The bulletin is divided into two parts. The first deals with the opportunities for teaching health in everyday situations, and the second is concerned with health teaching in an activity program. There is a bibliography and a teacher's check list for the study of health and sanitary conditions.

This publication is an example of what a group of teachers may do in the field of health education through the careful study of their problems.

INDIVIDUAL DIFFERENCES

By Frank S. Freeman. Price, $2.50. Pp. 365. New York: Henry Holt & Co., 1934.

THE STATEMENT made recently by the superintendent of schools of one of our largest cities, that in the future, education should pay more attention to the needs of the individual child, is an indication of one of the most significant changes that is taking place in American education today.

Dr. Freeman's new book gives a careful review of the psychology of individual differences as presented through a large number of investigations. There is real need for such a volume since most textbooks in psychology devote too little space to this subject.

Although this is not a highly technical book, only those who have had a good training in psychology and education will find it profitable.

QUESTIONS AND ANSWERS

Reducing Medicines

To the Editor:—Several times in my classes during a discussion of the dangers of self prescribed drugs to reduce the weight, a story was told about how some one had acquired a tapeworm by taking certain preparations designed or advertised to reduce weight. Could this be possible? If so, how could the tapeworm be prepared in order to live until taken in by some patient?

J. W., Kansas.

Answer.—The Bureau of Investigation of the American Medical Association reports that the "tapeworm capsule" story is a hardy perennial, and that no such product has ever been made. Time and again, reports the bureau, people with little knowledge of the problem endeavor to protect stout persons from the wiles of the obesity-cure faker by publishing a story of the concern alleged to make a business of selling tapeworm eggs or tapeworm segments in capsule form. Whenever such stories have been brought to the attention of the Bureau of Investigation, earnest efforts to discover their source have always ended in a blind alley.

While it would be quite possible to administer tapeworm eggs in such preparations, scientific records do not reveal any evidence that it has ever been done. The procedure would be useless, for tapeworm eggs require an animal host, such as cattle, hogs or fish for their development.

On the other hand, reducing preparations containing such drugs as thyroid substance, dinitrophenol and various laxatives that are used under commercial disguise for reducing purposes are just as dangerous as if they contained tapeworms, and in some instances they are even more dangerous.

"Obesity: Helpful Advice to the Overweight," a pamphlet published by the American Medical Association and priced at 15 cents, postpaid, gives valuable information on reducing and contains a chapter on reducing nostrums.

Blood Test for Calcium and Phosphorus in Cases of Nervousness

To the Editor:—A recent blood test for sugar tolerance led to a complete change in diet and subsequent improvement in health. I am still easily upset emotionally although the outward manifestations are usually under control. My muscles, however, have a tendency to become cramped, and I get very mind weary. What is your opinion of the value of a blood test for calcium and phosphorus in such cases of nervousness?

H. G., California.

Answer.—From the history of changed blood sugar content apparently relieved by an increase in carbohydrates in the diet, a deficiency of blood sugar might be suspected, though of course no diagnosis can be made without observation of the patient. A low blood sugar content accompanied by symptoms of fatigue, nervousness and muscle cramps might denote a changed function of one or more of the ductless glands. Muscle weakness, known as tetany, and cramping may be caused by a changed function of the parathyroid gland. The nervousness and fatigue may be due to an increase in thyroid activity. Many cases of this type do not show a change in the calcium and phosphorus content of the blood. The patient should have a thorough examination including chemical analysis of the blood, determination of the basal metabolic rate and a search for the presence of a low grade infection.

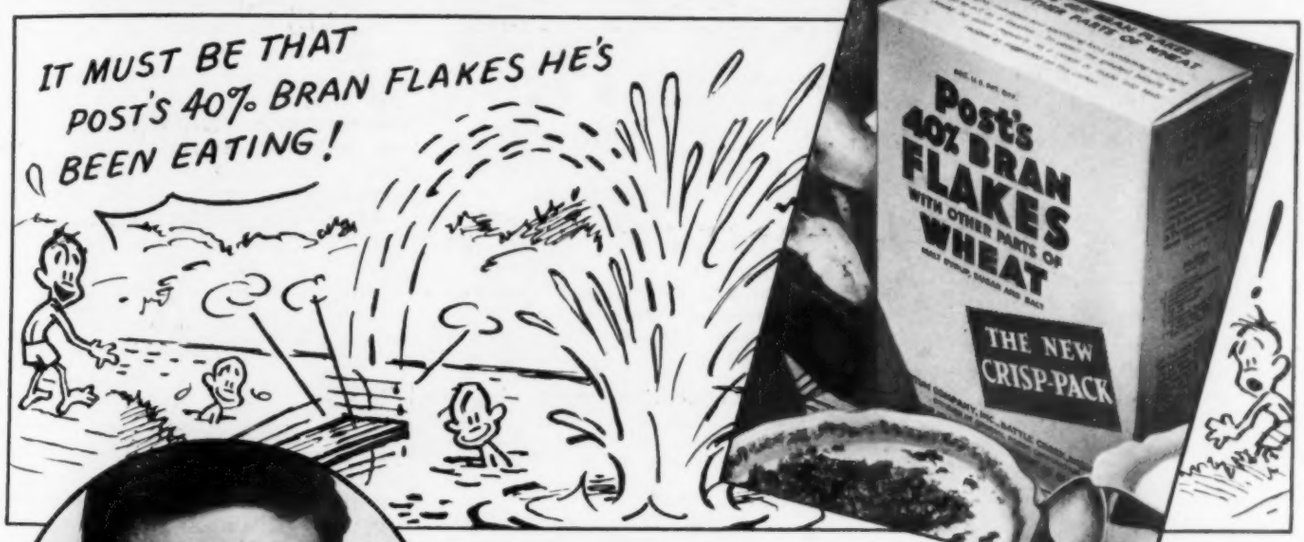
Creeping Eruption

To the Editor:—Please send me information on the history and treatment of creeping eruption. Five weeks ago my son, while setting out a lawn, became badly infested over the legs, knees and hands. Two doctors diagnosed the disease as creeping eruption. He was treated at a local hospital for three weeks; treatments consisted of pickling the skin several times with 40 per cent formaldehyde, then with chloroform treatments each day over a period of a week. The infected areas were then painted with iodine, and a heavy coat of salve made of ammoniated mercury and salicylic acid was applied. This was left on for about sixteen hours when it had burned the flesh ¼ inch deep. After all these drastic treatments there still are many parasites burrowing under the skin. My son is confined to his bed. Does the parasite that causes creeping eruption multiply under the skin? How long can it live in the skin? What specific treatment would you recommend? If you have a pamphlet on this disease, I should appreciate a copy of it.

J. C. T., Florida.

Answer.—Creeping eruption is caused by the minute, migrating larvae of any one of a number of parasites, in this country often by the larvae of cat and dog hookworm. These invade the skin and burrow between the layers of the epidermis, thereby forming a threadlike, more or less tortuous, linear elevation. If untreated, the disease may last for years. The chief difficulty in destroying the parasite is to locate it accurately in the skin. The larva may be as much as ½ inch distant from the tip of the visible end of the burrow as seen with the naked eye. An accepted method for destroying the larva consists in freezing an area around the organism about the size of a 25 cent piece by spraying it for thirty seconds with ethyl chloride and repeating this several times during a period of twenty-four hours. However, this procedure must be carried out by a physician. In the case described, it should be ascertained that the parasites are actually still present.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.



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Infantile Cataract

To the Editor:—What is the cause of infant cataract? What procedure is necessary to bring relief? What percentage of sight is usually restored to the affected eye? Is there any difference in the appearance of the eye after an operation?

G. T. B., North Carolina.

Answer.—First it should be stated that a cataract is a complete or partial opacification of the crystalline lens within the eye. Complete opacification is more unusual in infancy. There are a number of different varieties of cataract in which the lens is but partially affected.

Certain of these types of infantile cataract are dependent on previous inflammation of the eyes; others depend on disturbance in nutrition. Thus certain types of cataract, usually in cases in which the lens is but partially involved, may be due to rickets. In many cases the cataractous condition is dependent on faulty development, and when this occurs other defects in the eye may be associated with the cataract.

Up to the present time no medical treatment has been discovered that will absorb these cataracts; operation is the only method that is effective for improving or restoring sight. It is impossible to state accurately any definite percentage of sight that may result from a successful operation. It all depends on the character of the cataract, the presence of associated congenital defects in the eye, and the presence of disease in the back part of the eye; that is, behind the cataract. At times the vision remains defective even after a thoroughly successful operation; this is due to a defect of one type or another in the back part of the eye, but usually some improvement occurs.

Concerning the appearance of the eye after operation, much depends on what may be necessary to do at the time of operating or on the type of operation performed. In certain cases it would be impossible for any inexperienced person to tell that an operation had been performed on the eye. In other cases close observation may reveal a change in the appearance of the eye similar to that which occurs in older persons after cataract operations.

The fairest thing we can experience is the mysterious. It is the fundamental emotion which stands at the cradle of true art and science. He who knows it not, and can no longer wonder, no longer feel amazement, is as good as dead, a snuffed-out candle.

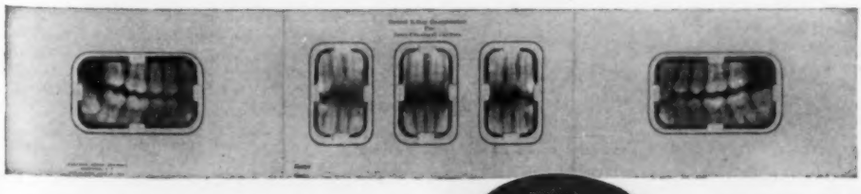
—*Albert Einstein.*

YOU'LL probably never know. But you can tell exactly what's going on in their teeth. And best of all, you can do something about it. In fact, you can make sure every tooth in their young heads is in perfect condition the day that school or college opens.

Take your children to your dentist now—*before school begins.* Have him make a thorough examination with *Bite-Wing* x-ray films. Before decay really becomes a cavity, when an erosion of the enamel can scarcely be called a break, the *Bite-Wing* x-ray examination reveals the exact conditions. Even those surfaces that are hidden from the eye and that explorers cannot reach are disclosed.

Five of these *Bite-Wing* films make a complete examination of all the teeth for cavities. It takes only a few minutes and costs very little. It enables your dentist to know the exact conditions and to prevent developments requiring painful, expensive treatment.

You eliminate extensive and expensive dental service, you safeguard tooth-health and general health, and you lengthen the life of natural teeth when every member of your family has an annual *Bite-Wing* x-ray examination.



Five-film Bite-Wing x-ray examination which pictures the crown of every tooth.

• • •

The booklet, "How to Prevent Toothache," tells of the many benefits of preventive dentistry and the Bite-Wing x-ray examination. Send the coupon for your free copy.

X-RAYS HELP TO KEEP YOU WELL

EASTMAN KODAK COMPANY, *Medical Division*
357 State Street, Rochester, N. Y.

Please send me, "How to Prevent Toothache."

Name _____

No. & St. _____

City & State _____

KEEP FIT WITH ULTRAVIOLET

Stimulates Vitamin-D

Health is the greatest human asset—the most important form of wealth—the resource of our livelihood—the physical basis of our ability to enjoy life—and by far the best and most glorious legacy you can give your child.

The Home Model Alpine Sun Lamp will bring you the beneficial ultraviolet—the activator of Vitamin-D.

About 90% of all quartz lamps used the world over are "Hanovia."

In case of sickness consult your physician. He is the only one qualified to advise you.

Accepted by the American Medical Association Council on Physical Therapy.

TABLE MODEL—$99.00 F. O. B. NEWARK, N. J.

HANOVIA
CHEMICAL & MFG. COMPANY
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Ask your local dealer for demonstration. Free descriptive folder, upon receipt of this coupon.

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The A.P.-UPLIFT

U. S. Pat. 1,702,922—Invented by Mme. Poix to create the stylish upward contour; to relieve pain and remove cause of many bust troubles; also for pre-natal and nursing periods.

Sizes 30 to 44

Mercerized Repp	$1.00
Flesh Tussah Silk	1.50
Flesh Mesh	2.00
Flesh Jersey	2.50

If not at dealers, order direct giving exact bust measure next to skin. Booklet free on request.

G. M. POIX, Inc.
103 Madison Ave.
New York, N. Y.

Excellent—LUCKY BREAKFAST FOOD—Nutritious
A FARINA—made from the CREAMY part of the WHEAT with FINE BRAN added.

For CHILDREN—Contains 0.7 per cent crude fiber which helps to counteract constipation due to insufficient bulk in the diet.

For ADULTS—Contains considerably more calories, weight for weight, than are found in eggs, white or whole wheat bread.

Accepted by American Medical Ass'n, Committee on Foods

FEDERAL MILL, INC., 400 Race St., Lockport, N.Y.

Mention HYGEIA when writing to Advertisers

THE MYSTERY OF THE BLUE-BLOODED LADY

(Continued from page 730)

erally do something about them. And, as you know, the stores are full of all sorts of 'headache powders' and 'cures' which any one can buy and which, by all sorts of advertising, they are solicited and advised to buy. You'd be surprised how many kinds are sold—and how much of each one. You'll be more surprised to learn that it is possible to become addicted to their use, as many people do. They eventually take these 'cures' constantly and in almost incredible amounts. That was the story finally obtained from this patient, although only after persistent questioning and after a great deal of difficulty, for these people are very apt, as in all addictions, to conceal the fact, especially as they consider the habit a harmless one and, in fact, do not think of it as a drug habit at all."

"Was *that* what was the matter?" asked Carey incredulously.

"This time you're right," Trebor replied. "She was a headache powder addict.

"The vast majority of headache cures and powders depend for their effectiveness on the fact that they are largely composed either of aniline derivatives or benzene compounds," Trebor continued. "All these substances cause the production either of methemoglobin or of sulphemoglobin. Their indiscriminate use is therefore unwise to say the least. Constant and habitual use of such 'cures' may be dangerous.

"That doesn't mean that you must rush to a doctor just because you may have an occasional headache or pain somewhere. But if you have frequent headaches or recurring pains in the joints or any kind of a pain, it ought to be obvious that there is a reason behind the pain, and that it is necessary to find and treat the reason rather than the pain, which will only come back again when the effect of the drug has worn off."

"How about 'hangovers'? I'm asking for Carey's benefit," I added virtuously.

"Same principle," laughed Trebor. "If they are frequent it is your habits, not your headaches, that need treatment. This just illustrates again the importance of the history."

"Well," said Carey, "I never knew before that there were headache powder 'dopes'."

"Yes," said Trebor, "there are, and they're not always women, or drinkers either."

"You're safe as long as you keep away from headache powders, Carey," I said.

"Oh, no!" said Trebor. "Aniline substances go into many things besides headache powders."

"Such as—?"

"Well, shoe dyes, for one thing. There was a little story in the paper only the other day about a football player who got all dressed up after practice one evening and started to call on his girl. But he never got to the house because on the way he fell over unconscious. It happened that he had just put on a pair of freshly dyed shoes before they were entirely dry. Since the dye was an aniline compound he absorbed enough to give him an acute attack of methemoglobinemia. I'm not making it up. It's a fact. Such attacks are possible after the use of aniline dyes for anything, if the dyed article has not been thoroughly dried 'efore use. Aniline poisoning is not at all uncommon in the manufacture of aniline substances, dyes or compounds or in the manufacture of explosives that contain aniline derivatives. Certain other drugs besides those found in headache powders can cause methemoglobinemia or sulphemoglobinemia; nitrites, for example, nitrobenzene, and even so common a chemical as potassium chlorate, which is sometimes used for a mouth wash."

"There are all sorts of chances to become a blue-blooded cop, Carey," I suggested.

"I'll stay red-faced the way I am," he growled.

"That gives me an idea!" Trebor exclaimed. "How does this sound for the next time: 'The Mystery of the Red-Faced Man'? And I don't mean you, Inspector," he added with a smile.

"I'll be waiting for that one," Carey smiled back at him.

(To be continued)

[NOTE.—Recent references to poisoning by headache powders and "cures" are: Acetanilid Poisoning: Results of Self Medication, by F. J. McEwen in the *Journal of the Kansas Medical Society* (Oct. 1933, p. 394); Chronic Acetanilid Poisoning, by L. C. Fisher in the *Journal of the American Medical Association* (March 11, 1933, p. 736); Methemoglobinemia, by W. J. Dieckmann in the *Archives of Internal Medicine* (Oct. 1932, p. 574).]

"The morbid states of health, the irritableness of disposition arising from unstrung nerves, the impatience, the crossness, the fault-finding of men, who, full of morbid influences, are unhappy themselves, and throw the cloud of their troubles like a dark shadow upon others, teach us what eminent duty there is in health."—*Beecher.*

Do You Know—

1. Some popular fallacies as to the symptoms of anemia? *See page 688.*
2. Why foreign particles constitute a potential danger to the eye and require expert attention from an oculist? *See page 731.*
3. Why even the best refrigerators have their limitations? *See page 701.*
4. In what varied forms nervousness may be found in children, adolescents and adults? *See page 698.*
5. That sick pets may transfer their disease to the children of the family? *See page 684.*
6. What breed of dog makes the best type of guide for the blind? *See page 708.*
7. On what the child's chances for permanent recovery from eczema depend? *See page 705.*
8. That African natives recognize only four main classes of illness? *See page 719.*
9. How many American children are enrolled yearly in dancing classes? *See page 714.*
10. What caused the epidemic of "jake paralysis"? *See page 738.*
11. What can be done to increase life expectancy? *See page 711.*
12. How much calcium and phosphorus the body needs every day? *See page 734.*
13. The difference between a "mastoid" and mastoiditis? *See page 682.*
14. What constitutes the so-called allergy group of disorders? *See page 691.*
15. How any abnormal deviation of the feet can be prevented? *See page 742.*
16. How simple goiter can be prevented? *See page 722.*

Her skin is kept dry and cool by this waterproof baby powder

A "smiling morning face" is a good indication of sound, healthful sleep the night before. No diaper rash keeps this happy baby fretful at nights — no chafing in the little creases of arms and legs, no irritation from heat and perspiration — because mother knows the secret of Merck Zinc Stearate!

There is nothing like this waterproof powder for keeping baby's skin healthy and comfortable. It forms a dry, soft film that affords protection against the irritating dampness of diapers and perspiration.

Merck Zinc Stearate is pure, fine and fluffy. It is soothing and healing to irritated skin. The self-closing top on the can makes it impossible to spill the powder accidentally.

Your physician and druggist will tell you that the name Merck on any product is a guaranty of purity and reliability. Merck & Co. Inc., *Manufacturing Chemists,* Rahway, N. J.

MAKE THIS WATERPROOF TEST TODAY

Shake some other powder into the palm of your hand. Then pour a little water onto the powder and rub gently with your finger. You will find that the powder absorbs the water and forms a paste. This happens when baby's skin is wet.

Now make the same test with Merck Zinc Stearate. You will find that this waterproof baby powder does not absorb the water — that the water stays on top in little round drops. That explains why Merck Zinc Stearate protects baby's skin.

MERCK ZINC STEARATE

MORTON'S SALT

IODIZED OR PLAIN

Proof that its regular use on the table and in cooking will help to keep children healthy by warding off simple goiter!

It's not surprising that Morton's Iodized Salt meets the exacting requirements of the American Medical Association's Committee on Foods. For it is made by an 87-year-old company whose watchword has always been quality. Produced under the constant supervision of certified chemists, every package of Morton's Iodized Salt contains sufficient iodine to prevent simple goiter but not enough to do any harm.

Yet its safety and effectiveness as a goiter preventive is only one reason for using Morton's Iodized Salt. Others are its non-caking cube crystals, its stimulating flavor (unaffected by the tasteless iodine), and its spout that won't tear out. As it costs an average family but 2c a week to enjoy this famous salt, why take chances with unfamiliar brands of doubtful satisfaction?

WHEN IT RAINS IT POURS

A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS

(Continued from page 725)

are removed. The salt crystals are centrifuged to remove excess moisture and then dried in rotary driers. The dried salt is screened to grade the crystals according to size. Salt of a definite granulation is packed in paper lined barrels, bags, wax-paper wrapped cartons and asphaltum lined cartons."

Salt prepared today is untouched by human hands in the manufacture. It is purified more carefully than in former years, and many brands of high grade salt have a clean, cool, salty taste, absolutely free from bitterness.

A salt refinery contains expensive equipment for accurate control of conditions. Temperature is controlled, and the moisture content of the salt is reduced to approximately 0.2 per cent.

Salt may be produced in two forms, cubical crystals and a more or less amorphous salt sometimes called flake salt. Various grades of flake salt are used in the making of cheese and butter. Salt for pretzels is fine, medium or coarse. Special grades of salt are used by bakers, canners and ice cream manufacturers. Salt for softening water, freezing ice and for farm use is less highly refined. Smoked salt is highly seasoned for use in curing meats, but it is also a useful condiment in the kitchen.

In the refining of salt the brine, pumped from wells, goes first to vacuum pans for the making of cube salt or to so-called grainers for the production of flake salt; then to continuous centrifugals, rotary dryers, sifting screens, maple lined storage bins, and finally to automatic weighing and filling machines. The modern production of salt is an interesting contrast to the solar evaporation system employed among early settlers in this country.

Salt may be obtained from wells, from mines or from the sea. Each of these sources provides vast amounts of this favorite seasoning for all foods.

A little salt makes an amazing difference in such bland foods as cooked cereal or potatoes. It brings out the natural wheat or vegetable flavor in its true goodness. The unpalatable flavor of unsalted bread is known to all, and no amount of added salt or salty butter will make the bread good to eat.

Most cooks carelessly shake a little salt into a pot, sometimes too much and at other times too little; but the skilled housewife becomes adept at adding just the right amount. When a recipe gives the definite amount to be used, always measure the salt carefully. It is wise to have a flat salt container in the cupboard, with a set of measuring spoons and a case knife, so that each fractional spoon will be correctly leveled. As a general rule, allow from 1 teaspoonful to 1¼ teaspoonfuls of salt to 1 quart of cooking water. Season a pint of white sauce with ½ teaspoonful of salt.

Salt should be added to meat before it is cooked. It makes little difference in the toughness or tenderness or so-called "drawing out" of meat juices, but the flavor is far better if the salty taste penetrates evenly throughout the cut of meat. When possible, rub salt in the center of the cut, as in the case of a rolled roast. The only exception to the rule of salting before cooking is when the meat is broiled beneath direct heat or when it is pan fried. Under these conditions the meat should be salted after it has been thoroughly seared on both sides. Pan gravy or drippings may be extremely salty and require no added salt when they are used in gravy.

Vegetables should be salted before cooking. They should be cooked in only enough water to provide steam within the closed vessel. They do not have the same delicious flavor when they are salted after cooking. Salt tends to set the color of green vegetables, thus making them more attractive.

Any sweet food may be given a dash of salt to "cut" the cloying sweetness and to bring out the flavor which is combined with sugar. Salt the jam, for instance, in order to bring out the berry flavor. Salt added to chocolate fudge brings out the fine chocolate and vanilla flavor and subdues the sugar flavor. Be sure to salt any cake frosting ever so slightly, that it may not be too sweet but interesting and delicious. A bit of salty butter may contribute sufficient salt to a frosting.

Salt has a tendency to curdle milk when heated. The salt may be added to milk gravy or to tapioca pudding after it has been cooked. Needless to say, all salads, salad dressings, deviled eggs and foods in this class should be salted. In pie crust, allow 1 teaspoonful of salt to 3 cupfuls of flour.

Too much salt in soup may be remedied by the addition of grated raw potato which absorbs the salt and cooks quickly at the last minute.

Salt used in pickling acts as a preservative. It hardens vegetables, makes them crisp and delays spoilage. Cured meats may be kept for long periods of time because of the salt preservative.

An unusual use for salt is with grapefruit. The flavor is different, and it may prove more pleasing than the usual sugar. Mushrooms are flat and flavorless without sufficient salt.

If salt is added to egg whites they may be easily beaten to the desired stiffness. In cake making, the required amount of salt may be added to the egg whites before they are combined with the other ingredients.

Nuts fried in hot oil are drained and sprinkled with salt immediately. The same method is followed for fried potatoes.

Salt added to ice water will increase its effectiveness and speed in chilling a gelatin dessert or hardening butter. Salt added to boiling water raises its boiling point. If salt is added to the water in which cracked eggs are boiled, it prevents the white from running out of the shell along the crack.

Advertising matter accepted by the Committee on Foods lists many uses of salt in the home aside from food uses; among these are its use in bath water and as a mouth wash or dentifrice.

This advertising matter is helpful to the housewife, and it is authentic. The Seal of Acceptance on any advertising material gives to it authority and prestige which the manufacturer has obtained only after careful compliance with rules governing the individual product.

Look for the Seal of Acceptance on all foods!

[NOTE.—In the September issue, Mrs. McCray will discuss chocolate flavored powders and syrups used for the preparation of food drinks. A list of accepted iodized salts will be sent on receipt of 6 cents in stamps.]

For a great many people business, recreation and the indulgence of living all maintain a priority over sleep. A last-resort attitude is assumed toward the bedroom. In spite of man's progress and great scientific achievements the fact remains that so far as his body is concerned, he is just as dictatorially controlled by nature as he was in the Garden of Eden. Nature invariably exacts her price if her mandates are consistently violated. Sleep is one of the prime essentials of the animal kingdom; and this is true of a cat, a dog or a well educated man. It may be somewhat of a blow to one's pride, but a boon to one's life, to realize that nature, and not man, possesses the final authority on the sleep question.

—Food Facts.

for Better Bones and Teeth

Krim-Ko Chocolate Flavored Drink besides being a delicious beverage that everybody likes is RICH in bone and tooth-building CALCIUM. If the members of your family are not getting enough CALCIUM in their daily diet—try serving Krim-Ko—the drink with the true chocolate flavor.

In addition Krim-Ko is an excellent between meals drink. It helps to satisfy the desire for something sweet and to prevent the excessive use of candy.

If there is not a dairy in your town that bottles Krim-Ko, write to the Krim-Ko Company, 4830 S. Turner Ave., Chicago, Ill., and give us the name of your dairy.

ACCEPTED AMERICAL MEDICAL ASSN.

Krim-Ko is chocolate flavored, sweetened, partially defatted milk (Added tapioca—salt).

KRIM-KO
REG. U.S. PAT. OFF.
•CHOCOLATE FLAVORED DRINK•

SEX EDUCATION
Booklets

by Thurman B. Rice, M.D.

Modern without sacrificing fundamentals. Frank, but not sensational. Illustrated.

THE STORY OF LIFE—For boys and girls of 10. How life comes from life—How flowers are born—Male and female functions in fish, frogs, turtles, birds, calves, colts, kittens and human beings—Simple facts about sex hygiene. 36 pages.

IN TRAINING—For boys of high school age. How sex influences every minute of life—Clean sports—The fun of hobbies—The miracle of life—Human mating—Purposes, physiology and hygiene of sex—How marriage protects the race. 48 pages.

HOW LIFE GOES ON AND ON—For girls of high school age. Motherhood, the great career—How reproductive organs function—Menstruation, its physiology and hygiene—Athletics for girls—True feminine attractiveness—Going out with boys—Marriage. 38 pages.

THE AGE OF ROMANCE—For both sexes of college age. Training for happy home life—Sex feeling of male versus female—Control: a mutual responsibility—Premarital understandings—Planning for parenthood—Ideal honeymoon—Two purposes of sex. 44 pages.

THE VENEREAL DISEASES—For persons of college age or older. Prevalence of venereal diseases—Effects on individual and on society—Syphilis and its transmission—Protective measures—Symptoms and stages—Gonorrhea and other diseases. 40 pages.

Heavy paper covers. 25 cents a copy. Complete set of 5 in filing case, $1.00

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street, Chicago

2 NEW NIPPLE SHAPES

One of these 3 shapes will fit your baby's mouth and reduce windsucking. Assures uninterrupted and contented feeding.

Avoid Dirt — This large nipple is safest, as it is easily inverted and cleaned.

HYGEIA
The Safe Nursing Bottle

Of the most absorbing importance to expectant mothers

"A Child is to be Born"

A reprint of the delightful and practical articles in HYGEIA

Diet · Clothing · Exercise
Symptoms · Bathing · Teeth
Sanitation · Layette

15c AN ENCOURAGING AND SYMPATHETIC BOOKLET 15c

American Medical Association
535 N. Dearborn St. Chicago, Illinois

VACATION BREEZES Free from SNEEZES..

Allergic Symptoms increase in vacation time when the breeze is loaded with pollen. Hay fever, skin eruptions, and all other forms of allergy may be caused and aggravated by cosmetics.

Protect your health and your beauty. Use only these medically recognized non-irritating cosmetics.

Marcelle
NON ALLERGIC

Send for an attractive vacation box—face powder, cold cream and a 50c package of lip and facial cream rouge—vibrant glowing color that is not affected by sunshine or swimming. This complete traveling packet is only 50c—the rouge price alone.

MARCELLE LABORATORIES CHICAGO

Will my baby be strong and well-formed?

● Yes. Under normal conditions your child will be strong and well-formed—if, while nursing, your diet contains everything necessary. As a supplement to the diet the regular use of Cocomalt in milk is suggested. For Cocomalt provides extra proteins of highest value, *extra* carbohydrates and food-calcium, food-phosphorus and Sunshine Vitamin D which help to give your baby strong bones—sound, straight teeth. Sold at grocery and drug stores. Delicious—you'll enjoy it.

Cocomalt is accepted by the Committee on Foods of the American Medical Association. This means the product fulfills the claimed nutritional values for it, and the claims for it are truthful. Produced by an exclusive process under scientific control, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D.

Cocomalt
The delicious Vitamin D food-drink

FAMILY UNITY MAY BE DEVELOPED BY SPENDING PLAY HOURS TOGETHER

"The family that plays together stays together." Though the modern home is often referred to as just an American plan hotel useful for eating and sleeping, the present widespread interest in home games and backyard playgrounds gives striking evidence to the contrary, according to *Child Study*.

Though dad and mother only watch the fun from the bench or porch, a unity of interest is felt between children and parents. A suggestion is made that one night of each week be devoted to family parties: playing games, making things at the work bench to beautify the home, going to concerts together or putting on little plays. Backyard games during vacation days may include paddle tennis, deck tennis and badminton.

No summer is complete without adventure. According to doctors and mental hygiene experts the essence of a vacation is change. If a family cannot go to the mountains or seashore, its members may at least become acquainted with parts of the home community or city that have never before been investigated.

Leisurely visits to the foreign sections, to the public library, the parks, the aquarium or zoo, the museums and great plants such as dairies may pass many unforgettable hours. There are also possibilities of numerous family picnics by car, train or boat to places of historical as well as natural interest.

Parents are today looking beyond the immediate vacation needs of their own children and are helping to provide all the children in their community with opportunities for joyous and expressive living. But they must not neglect the idea of the family playing together. The family with no play traditions is like a dead tennis ball—it looks well rounded, but it has no bounce or comeback.

JOHN WESLEY'S RULE

Do all the good you can
By all the means you can
In all the ways you can
In all the places you can
At all the times you can
To all the people you can
As long as ever you can.

For the young, motor education is cardinal and is now coming in due recognition, and for all, education is incomplete without a motor side. For muscle culture develops brain centers as nothing else yet demonstrably does.

—G. Stanley Hall.

SUMMER HINTS

1. The summer auto trip with children along requires a little planning. Always wash thoroughly all fruits and vegetables purchased along the route. The farmer may have used poisonous sprays to kill insects.

2. Avoid particularly the temptation to drink sodas and bottled drinks. Conquer the desire to overload the stomach with ice water.

3. Pass up old beliefs about summer diets. Heat isn't as necessary as it is in winter; therefore reduce the sugars and starches. But the same quarts of milk a day are needed, although good ice cream may account for a part. Green vegetables, fresh fruit, tomatoes, a little meat or fish, some eggs, some bread and butter, and there you are, winter or summer.

4. Too many cautions cannot be written about sunburn. Children are in particular danger because they don't realize there is any danger. If parents aren't watchful a prolonged day or two in the summer sun will mean a week of suffering, often in bed.

5. There are two causes for worry in regard to going barefoot, and neither of them is flatfoot. They are hookworm and the punctured wound which is liable to result in tetanus, or lockjaw. When a child steps on a nail, take him to a physician immediately.—*Bulletin, New Jersey State Department of Public Instruction.*

Tourists should guard against the common drinking cup and insanitary conditions in roadside camps. Clean food and drink service is essential to a healthful and worthwhile vacation.—*Public Health Committee, Cup and Container Institute.*

VALUE OF LIFE

Every year more than 30,000 young men and women between 25 and 29 years of age die from entirely preventable causes, and their capital value, having in mind their net future earnings, is about $750,000,000. Having due regard for the value of life at each age period, I estimate that the total capital value of the lives which can be saved annually through the application of modern preventive medicine and public-health measures is over 6 billions of dollars.

—Louis I. Dublin.

Sincerity is impossible unless it pervades the whole being; and the pretense of it saps the very foundation of character.

HEALTH SHOULD BE THE NATURAL STATE OF GROWING CHILDREN

Health is not merely something to talk about or something to teach: it is not something about which the child should be made conscious, in the opinion of *New York State Education.* Health is a natural by-product of wholesome living. Present-day biologists claim that the body develops normally only under the impetus of joy and happiness.

Keeping faith with children as far as health is concerned has to do with a pleasant home life and a school where the relationship of pupil and teacher is friendly. Adults should realize that the child has a right to long periods of the running, jumping, climbing type of activity that lays the basis for organic power and resistance to fatigue.

Secondly, the child has a right to "start from scratch"; that is, to have frequent medical examinations to detect the beginning of handicaps. Thirdly, he has a right to know some "whys" of health rules. He may readily be made to see that health and vigor help him to do many of the things he wants to do —help him to jump higher, pitch better and run faster.

As the child grows older, of course, he should know some facts relative to his own personal habits; but even then these habits will be motivated by some supreme personal enthusiasm for certain ways in which he can utilize health rather than regard it as simply an end in itself.

Therefore the teacher or the parent may teach some things *about* health, but as a subject it cannot be taught.

HEALTH "DON'TS" FOR SWIMMERS

1. Jumping feet first into the water is dangerous—it often leads to sinus infections.

2. Sudden and forceful expulsion of air under water is dangerous for the same reason.

3. Blowing the nose during and immediately after swimming often leads to ear infections.

4. Swallowing while swimming is dangerous for the same reason.

5. Swimming under water, especially for a long time, is undesirable; it leads to eye irritations.

6. Loitering in wet bathing suits is to be avoided.

7. Hair should be dried quickly and completely after swimming.

—*The Camping Magazine.*

Control of disease depends on knowing that it exists.

RELIEF MEASURES PROVE CAUSE OF LOW 1933 DEATH RATE

The lowest death rate ever recorded in the United States was for the calendar year of 1933, according to Dr. Hugh S. Cumming, surgeon-general of the U. S. Public Health Service, in a report to Congress, appearing in *The Diplomate.*

The two principal factors which have kept the country healthy in spite of the economic depression of the past few years are the vast work of the relief agencies and the fortunate absence of widespread epidemics.

The participation of the Public Health Service in the Civil Works program was an outstanding activity during the year, according to the report. Through the use of work relief labor, assistance in malaria control drainage work was given to fourteen states, in which there had been approximately 2 million cases of malaria yearly.

In the field of public health new problems constantly arise, such as the unusual type of encephalitis in St. Louis in 1933, the outbreak of amebic dysentery in Chicago, and the necessity for the control of distillery wastes now being emptied into already heavily polluted streams, thus seriously affecting the water supplies of the country.

The report concludes with a plea for constant vigilance in order to detect and study continually rising dangers to public health and thus combat them successfully.

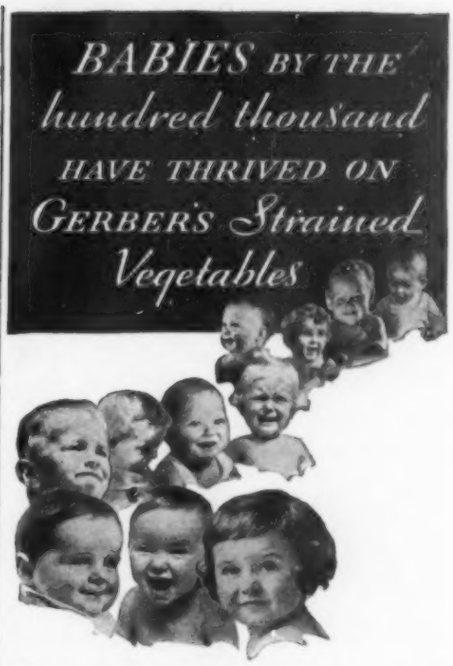
Two per cent of the population is constantly incapacitated for work on account of sickness. Deaths in the United States annually reach 1,750,000. One-third of these deaths are preventable; 120,000 babies die annually from preventable causes in the first year of life. At the ages of 25 to 29 the number of deaths due to preventable causes exceeds 30,000 annually. The cost through premature mortality is half again as large as the cost of medical care.

—*Nassua Medical News.*

When from our better selves we have too long
Been parted by the hurrying world, and droop,
Sick of its business, of its pleasures tired,
How gracious, how benign, is solitude.

—*Wordsworth.*

There are occasions when knocking is justified—as, for example, when it will open a door to better things.



SIX years ago Gerber began saving young mothers hours of daily tiresome work . . . began giving babies strained vegetables rich in *vitamins* and *minerals*, more scientifically prepared than home equipment permits.

This year's babies have a *special* treat in store. They'll find their Gerber's Strained Vegetables finer than ever in flavor . . . fresher-tasting, brighter in color, more uniformly cooked because of Shaker-Cooking, an exclusive new Gerber process that shortens cooking time 50% to 60%.

Gerber's Strained Vegetables are specially grown—fresher, rich in vitamins. Air-excluding equipment helps protect vitamin C. Moisture regulation conserves mineral salts. Straining is through perforated monel metal, five times as fine as kitchen sieves. Gerber's Strained Vegetables are unseasoned. Serve as they are or season slightly if the doctor directs.

9 Shaker-Cooked Strained Foods
Vegetable Soup . . . Spinach
Green Beans . . Carrots . . Peas
Prunes . . . Beets . . . Cereal
Tomatoes . . . 4½-oz. cans

Ask Your Doctor

Gerber's
Shaker-Cooked Strained Foods

MOTHERS! Send for these helpful books. "Baby's Book"—practical information on daily care of baby, by Harriet Davis, R. N. "Mealtime Psychology," by Lillian B. Storms, Ph. D.—widely distributed to mothers by physicians for its practical suggestions in developing normal eating habits.

GERBER PRODUCTS COMPANY
FREMONT, MICHIGAN
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☐ "Baby's Book." Enclose 10c
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NATIONAL CAPITAL TO BE SCENE OF HUGE SCOUT JAMBOREE THIS MONTH

Boy Scouts, 30,000 strong from all parts of the United States, will be advancing on Washington, D. C., the twenty-first of this month for the climax of the twenty-fifth anniversary celebration of the founding of the Boy Scouts of America. From August 21 to 30, the boys will live in a veritable tent city, according to *Boy's Life.*

Three hundred acres of park land on the Virginia shore of the Potomac river and adjacent territory will be the scene of 8,500 tents for sleeping, 80 tents for hospitals and numerous others for trading posts, mail, and other departments. More than 100,000 meals will be served daily to the hungry youngsters, requiring 500,000 pounds of food.

Ample medical and hospital facilities will guard the health and safety of the campers. There will likewise be a fire chief and sanitary inspector.

Numerous sight-seeing trips, parades and displays have been arranged for the duration of the "greatest scout camping trip ever."

Invitations to the Scout Jamboree have been sent out by President Franklin D. Roosevelt, honorary president of all the scouts in America.

Scouting now is established in seventy-three nations of the world, enrolling more than 2¼ million men and boys. There are nearly 1 million scouts in the United States alone.

People may for a time spend their new and perhaps unwelcome leisure in sleep, at the movies or in driving back and forth on the crowded highways, catching glimpses of the countryside between the billboards. It is inconceivable, however, that these forms of entertainment will long satisfy our population. They will demand and are demanding some kind of occupation which will assist them to a more varied, stimulating, and important brand of activity.

—*Robert M. Hutchins.*

In these days half our diseases come from neglect of the body in overwork of the brain.—*Lytton.*

Were a young man to write down a list of his duties, health would be among the first items in the catalog. This is no exaggeration of its value, for health is indispensable to almost every form of human enjoyment.—*Horace Mann.*

Schools and Camps

DEVEREUX SCHOOLS

Devereux Tutoring Schools, separate buildings, boys, girls. Individual programs; social training stressed. Camp at North Anson, Maine. Devereux Farms, Glen Moore, Pa., with industrial shops for young men over 16; cultural lectures, music, athletics. **Helena Devereux Fentress, Director, Executive Office, Box A, Berwyn, Pa.**

Schools for Exceptional Children

WILSON SCHOOLS

For exceptional children of all ages. Large residences. Fine appointments. College trained experienced teachers only. Individual instruction. SPEECH CORRECTION. Preschool, grades, state accredited high school. **La Verne A. Wilson, Pres., 7 Arnold Place, Dayton, O.**

Beverly Farm, Inc. Home and school for nervous and backward children and adults. Successful social and educational adjustments. Occupational therapy. Dept. for birth injury cases. Healthfully situated on 220-acre tract, 1 hr. from St. Louis. 7 well-equipped buildings, gymnasium. 37th year. Catalog. Groves Blake Smith, M.D., Supt., Box H, Godfrey, Ill.

<> TROWBRIDGE TRAINING SCHOOL <>

Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

THE SYLVESTER SCHOOLS

For boys and girls whose progress has been hindered or retarded by illness, nervousness, speech defects or inability to adapt themselves to the usual form of instruction. Birchmont, new hall for girls. Illustrated catalog. 3419 Grand Avenue, Des Moines, Iowa.

The NEW DAVIDSON No-Colic Brand SCREW-ON Nursing Bottle CAP

Baby's food safely sealed by this MODERN Bottle Cap—companion to the Davidson No-Colic Screw-On Nipple and Screw-Top Bottle! Screws on the bottle in place of nipple — gives air-tight, liquid-tight protection. SANITARY, because it keeps fingers from neck of bottle. Stands repeated sterilizing. At leading druggists. Write for professional sample Cap, Nipple and Bottle.

Davidson Rubber Co.
Founded 1857
Boston, H Mass.

The SEX TECHNIQUE IN MARRIAGE • By I. E. Hutton, M.D.

"Dr. Ira Wile describes the book as a clear, succinct, non-emotional, authoritative and conservative exposition of the practical factors involved in making marriage successful on the sexual level. That describes the book exactly . . . It is primarily concerned with the conduct of the honeymoon and with the technic of the sexual performance." —Hygeia.

Acclaimed by the Medical Press Everywhere

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EMERSON BOOKS, Dept. 120, 333 Sixth Ave., N. Y. C.

WHEN WRITING ADVERTISERS PLEASE MENTION HYGEIA

BROADCASTING SYSTEMS LAUNCH REFORMS IN RADIO ADVERTISING

The United States is at last en route to reform in the type of advertising promoted over the radio, according to an editorial in *The Journal of the American Medical Association.* Especial emphasis was placed on the recent announcement by the Columbia Broadcasting System setting forth the new policies which will guide that network for the future.

The new policies will involve purification in the type of material broadcast to children both as entertainment and as advertising. No longer will the Columbia Broadcasting System permit broadcasting for any product that describes graphically or repellently any internal functions, symptomatic results of internal disturbances or matters that are generally not considered acceptable in social groups. Such a step will specifically exclude not only all laxative advertising but the advertising of laxative properties in any other product. It will further exclude the discussion of depilatories, deodorants and other broadcasting which by its nature represents questions of good taste in connection with radio listening.

This new trend in radio advertising is logically associated with federal endeavors to control in various ways the evil of exaggerated and fraudulent advertising. Among such "hand-writings on the wall" are the passage by the Senate of the Copeland bill which, though inadequate, is nevertheless a beginning in the direction of legislation to control advertising.

Great nations move slowly in their efforts for reform, but eventually an annoyed and deceived but too tolerant public rises in its wrath and reacts against those who abuse its tolerance.

Some individuals find recreation by a change in activity, going smoothly from one interest to another and never tiring. Recent studies of fatigue have proven that the old state of being tired at the end of the day is more of an habitual emotional one; that every one of us gets another "break" when we have finished with our work, so that we can start to create again and do something just when we begin to say to ourselves that we have done our share.—*Recreation.*

It is better for a man to maintain himself in good health than to load himself with learning.

—*Arnold Bennett.*

"BE PREPARED"!

During the swimming season one never knows when one will be faced with an emergency. One should be ready for it. The rules for saving a life from drowning are simple. If followed in rhythmic precision it should be possible to restore breathing, providing no time is wasted at the start, according to the *Weekly Bulletin* of the Connecticut State department of health.

On removal from the water the patient should be placed stomach down on a flat surface; the mouth should be opened, one arm bent so that the head may rest on it, and the other arm stretched full length above the head.

First: Kneel and straddle the patient below the hips, placing the hands on the small of the back with the fingers over the lowest ribs and the tips just out of sight on each side.

Second: Keeping the arms straight, count one, two, while swinging forward bearing the entire weight on the patient's body firmly but not violently.

Third: Swing backward to the count of one, thus relieving the pressure. This allows air to be drawn in the patient's lungs.

Fourth: Rest in this position for two counts.

Fifth: Repeat these movements rhythmically, forward and backward without interruption, about twelve to fifteen a minute, until natural breathing is restored.

The patient should not be moved from this particular spot until breathing is absolutely regular and easy. He should be kept warm and should remain in a horizontal position until removal to the hospital or home, where expert medical attention can be received.

Sixty seconds make a minute, tiny little things, and yet they form the months and years that speed on lightning wings. Most people want to do big things and for the chance they wait, but years pile up and soon they find alas, it is too late. I hope, my friends, you'll never try to do some big things by and by—the chance may never come; it is, the little things that amount and make a big sum. In living out your life you'll find that little things are all you do, so do them gently with a smile—and doing so, make life worth while.—*J. Alfred Taylor.*

"Men are born with two eyes but with one tongue in order that they should see twice as much as they say."

—*Colton.*

THE JOYS OF SOLITUDE SHOULD BE LEARNED IN CHILDHOOD

The 7 year old asks querulously, "What'll I do now, Mother?" The 17 year old exclaims, "Gosh, I'm bored today!" Hearing this, we remember wistfully our own childhood with its long hours of quiet reading, of absorption in projects of sewing or carpentry, of golden day dreams, or of simple idling in the sunshine, says an article in the *Woman's Home Companion.*

Sensible parents, however, have no patience with the futile desire to turn back the clock, to revert to "the good old days." But neither should they have patience with an easy yielding to the social pressures of the moment. Activities pile up every hour of the day by emulation, imitation and persuasion, until the children of today's families run on schedules as closely packed as those of statesmen. The wise parent cuts through and provides for periods of solitude.

The capacity for solitude is insurance against dulness and despair in those days which come soon or late, when work is done, and every one else seems busy or far away. It is an essential preparation for adult life. The child must get acquainted with himself, learn how to live at peace with himself, discover what inner resources he has. There must be time for books, thoughts, wonderings, imaginings, day dreams. Such are the ingredients of personality and individuality.

Then comes the test—whether it will be loneliness or aloneness—the eagerly awaited chance to think and do a hundred things all by oneself. It will be tragic if the present generation is reared incapable of the creative joys and contentments of solitude.

The singing heart of a child is a precious gift to the world, to be guarded and cherished. People searching vainly for the fountain of youth may find restoration in the blithe laughter of a child, poured out freely from pure deep waters of joy. It is the adult's privilege as parent, teacher, friend to care for this treasure, to see that little children have the guidance and protection, the freedom and justice that will keep the music ringing in their lives.—*Childhood Interests.*

Life would be a perpetual flea hunt if a man were obliged to run down all the innuendoes, inveracities, insinuations and misrepresentations which are uttered against him.—*Henry Ward Beecher.*

MOTHER
look for
BOTH SEALS

57

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

when you buy
STRAINED FOODS
for baby!

HERE'S the modern, simple, sensible way to make sure that *your* baby gets his proper feeding—look for the *two* Seals of Quality on the strained foods *you* buy. Only Heinz bears both.

The Seal of Acceptance of the American Medical Association's important Committee on Foods, indicates that the scientific nutritional value of Heinz Strained Foods has been found acceptable to the medical profession. Heinz are the sort of foods *your* doctor wants *your* baby to have.

The Heinz Seal means quality. Only the experience gained in 66 glorious years of preparing and packing pure food products can produce foods as completely wholesome, deliciously nourishing and unfailingly good as Heinz Strained Foods! They *taste better.* Their rich, natural color will tell you that they are pedigreed fresh vegetables of unmatched goodness; cooked and strained under the active supervision of Heinz famous chefs, in spotless modern plants agleam with cleanliness.

Depend on Heinz to guard *your* baby's diet! It's the safe and sensible thing to do.

HEINZ
STRAINED FOODS

9 KINDS — 1. Strained Vegetable Soup. 2. Peas. 3. Green Beans. 4. Spinach. 5. Carrots. 6. Tomatoes. 7. Beets. 8. Prunes. 9. Cereal.

GET THIS BABY DIET BOOK

The new book *"Modern Guardians of Your Baby's Health"*, contains many up-to-date facts regarding the various vitamins and mineral salts. Also information on infant care and feeding. Send labels from 3 tins of Heinz Strained Foods or 10 cents. Address H. J. Heinz Company, Dept. H208, Pittsburgh, Pa.

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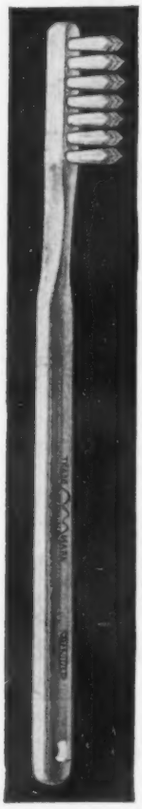
GENUINE TAKAMINE



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Only TAKAMINE toothbrush has fine quality TAKAMINE bristles that are properly spaced and shaped, and PERMANENTLY set in small scientific head (designed by PERIODONTISTS) that reaches ALL tooth surfaces and acts as a stimulating agent for the gums. TAKAMINE bamboo handle WON'T distort from proper brushing shape. GENUINE TAKAMINE is approved by the Oral Hygiene Committee of Greater New York, and recommended as the type best fitted for effective brushing (Hygeia, Oct. 1934). Try a TAKAMINE and note its superiority to any other.

SPECIAL OFFER TO HYGEIA READERS—

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132 Front St., New York City
I enclose 60c for Introductory Package of 6 TAKAMINE TOOTHBRUSHES (reg. 75c).
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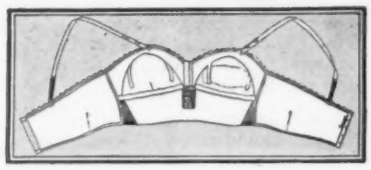
"NURSING" BRASSIERES

Made of porous mesh, with form-fitting fullness which preserves natural contours, gives support (without pressure) to the breasts, these brassieres are recommended by thousands of physicians.

Long-line brassiere—with high back and elastic gussets—
No. 7005
$2.00



Equipped with rubber interlined breast shields, holders for pads of sanitary gauze, adjustable shoulder straps and front openings. Send for booklet HYA, MAIDEN FORM BRASSIERE CO., Inc., New York, N. Y.

Bandeau (right) No. 382, $1.25

AT ALL LEADING STORES

Maiden Form
BRASSIERES
GIRDLES GARTER BELTS

NONE GENUINE WITHOUT THIS LABEL

ACCIDENT HIGHLIGHTS OF 1934

According to statistics compiled and recently released by the National Safety Council:

1. Accidents in 1934 caused 101,000 deaths, the highest total on record.

2. The total cost of 1934 accidents is estimated at $3,500,000,000 including wage loss and medical expense for injuries and deaths, as well as property damage from motor vehicle accidents and fires.

3. In the average year about 43 per cent of all persons accidentally killed in homes are 65 years of age or older. About 47 per cent of all home fatalities result from falls and 18 per cent from burns.

4. From 1913 to 1934, deaths in motor vehicle accidents increased from 4,227 to 36,000, whereas deaths from all other kinds of accidents decreased from 78,233 to 65,000.

5. Of the 16,000 occupational deaths in 1934, about 4,400 occurred in agriculture, 3,800 in trade and service industries, 2,300 in construction, 2,000 in transportation and public utilities, 1,900 in manufacturing, and 1,600 in mines, quarries and similar industries.

6. Of the 4,879 deaths in railroad accidents in 1934 only 39 were deaths of passengers. There were 1,554 deaths in grade crossing accidents and 2,654 deaths of trespassers on railroad property.

7. Only 1 or 2 per cent of the drivers in fatal accidents were reported physically defective. About 6 per cent were intoxicated, and about 1 per cent were asleep.

8. Drivers around 18 years of age had the most fatal accidents per 100,000 drivers registered. The next most dangerous group was from 20 to 29 years of age and the third, from 60 to 69 years of age.

9. Four out of five fatal accidents occurred on dry roads. Four out of five occurred in clear weather.

10. State-wide reports show that from 25 to 30 per cent of all fatal accidents occurred at intersections, including curves, grades, railroad crossings and so on. Cities of more than 50,000 population reported 55 per cent of all fatal accidents at intersections.

Thinking is man's most useful work, providing action follows thought.—*Bulletin, California Department of Health.*

The child of today is born heir to a wealth of human knowledge which defies computation.

—*Donald Richberg.*

PARENTAL FRICTION HAS ILL EFFECT ON CHILD

One of the greatest scars left on childhood by parental bickering is the feeling of "difference" instilled in a child. Children find themselves thinking that they are different from their playmates when something goes wrong within their home. They no longer feel as carefree as their school fellows and suddenly begin to think of themselves as apart from the group, according to an article contained in a recent issue of *Child Study.*

During all childhood, but especially in adolescence, boys and girls need to find much of their necessary security through a realization that they "belong," not only to their parents but also to the play and school and neighborhood groups of which they are a part. To win acceptance from the group they must not be too different from the others. The group's own security depends to a great extent on the solidarity that comes from likeness, and to be fully accepted a child must conform in dress, manner and behavior. Children instinctively realize that anything which makes them feel or act differently from the prevailing group standards tends to jeopardize their standing in the group and consequently lessens their security.

Children who are forced to a realization of their parents' frictions feel "different." They cannot help it, and no matter how loyal they are to their parents, they cannot help comparing them with the parents of their playmates. They conclude that there is something wrong about their family situation that makes them feel this way. A feeling of difference means that they will eventually act differently. Soon the group notices this and, with the savage ruthlessness of childhood everywhere, looks on them as something apart from their beloved circle. This kind of upbringing furnishes excellent soil for later development of personalities destined to go through life with patterns and attitudes which at best will prove of little help in adjusting constructively to marriage and the other vital experiences that life may bring.

If parents realized the handicap they were giving their children by their own maladjustments, they would find means at least to moderate these unpleasant circumstances. Even a parental unburdening to some third person whose discretion and understanding in a neutral, objective fashion can be relied on may bring about a temporary drainage of pent-up and morbid feelings.

NUTRITION INVOLVES PROPER FOOD, SLEEP AND OUTDOOR EXERCISE

To be satisfactorily nourishing, a child's diet must contain the right kinds of food in the right balance. A child needs foods which supply energy, such as milk, breads, cereals, sugars and fats. He also needs foods which repair broken down tissues and make for growth, such as milk, cereals, legumes, eggs, cheese, meat or fish. Most of all he needs the foods which are called protective foods, including milk, vegetables, fruits and cod liver oil, which protect him from deficiency diseases such as rickets, scurvy and pellagra. These protective foods contain a large proportion of the necessary vitamins and minerals. These requirements are listed in a recent issue of *The National Parent-Teacher Magazine.*

But in addition to the right kinds and balance of food, nutrition includes both appetite and digestion. To be well nourished a child must not only eat properly but sleep properly and get enough sunshine, fresh air and exercise. Outdoor play stimulates circulation, develops muscles, improves appetite and causes normal tiredness which makes for sound sleep. Sunshine helps the child to make better use of minerals in the food he eats, and it is therefore an aid to good nutrition.

Moreover, bodily fatigue and emotional strain can upset a child's nutritional condition quite as much as a lack of actual food. Since no two children are alike it is best to consult the family physician to find out whether or not the child's nutritional needs are being satisfied. The family doctor can tell whether the child is up to his own particular par; and if he is not, the doctor can advise what is best to do about it.

There is great need for cooperation between parents, school officials and physician. Instead of wasting time examining every child hurriedly and indiscriminately, school health examiners can use the observations of teachers and the results of nutrition tests made by trained people to examine carefully these children who seem most to need attention. Parents and teachers can work together by comparing observations and by combining their efforts, first to get the undernourished child to a physician and then to carry out his recommendations.

Parents and teachers share the responsibility of discovering the undernourished child, but the final word must always rest with the physician.

LITTLE THINGS CAUSE BIG ACCIDENTS IN CHILD'S ROUTINE OF PLAY

Little things cause some of the biggest accidents, and it is wise for parents to guard against these petty things which are capable of causing serious disasters. This warning was issued in an article which recently appeared in the *Monthly Bulletin of Indiana Public Health.*

Children are often taken to hospitals because a fragment of a peanut or popcorn has lodged in one of the branches of the bronchial tube. As a rule these accidents happen because children so frequently laugh and play when they are eating peanuts or popcorn. Mothers should help to avert disasters by having their children sit down while they are eating these foods. Children should not be permitted to toss peanuts into the air and catch them in their mouths. In case a fragment of food should lodge in the windpipe the proper thing to do is to pick up the child by his heels, with his head hanging down, and pound him on the back. If the child is too large for this, bend him over the back of a chair so that the head is down while some one pounds him on the back. There is absolutely no danger in this procedure, and it often helps dislodge the fragment.

Children often run about while they have candy suckers in their mouths. If they should fall they are liable to injure themselves seriously. Recently suckers have been made in which the "stick" was a heavy piece of string. Obviously this removes the hazard.

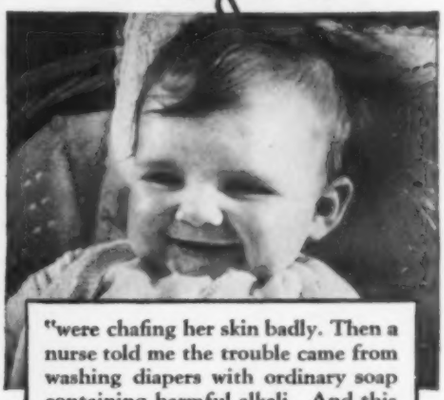
A child often goes about the house in the evening with a pencil in his mouth while engaged in his home work.

Children frequently play with darts of various kinds which they throw at a target. These darts often have nails in their points, and so if they strike any one in the eye they may cause irreparable damage. Such instruments have been known to penetrate the skull. The same sort of warning might be given concerning other sharp instruments. Scissors for children's use should have rounded cutting blades.

Children often swallow lye, and this causes grave injuries. When a child swallows lye, parents should remember that the antidote for the poison is given on the can of lye and should be administered immediately.

Medicine cabinets should be placed out of reach of the child, because he is apt to think that bright colored pills are candy.

"My Baby's diapers—



"were chafing her skin badly. Then a nurse told me the trouble came from washing diapers with ordinary soap containing harmful alkali. And this was irritating the baby's skin.

"When I changed to Lux, the diaper rash disappeared. Lux is safe—it hasn't any harmful alkali. And yet it takes away diaper odor completely . . . Lux keeps her woolens soft, too."

LUX Won't irritate a baby's tender skin

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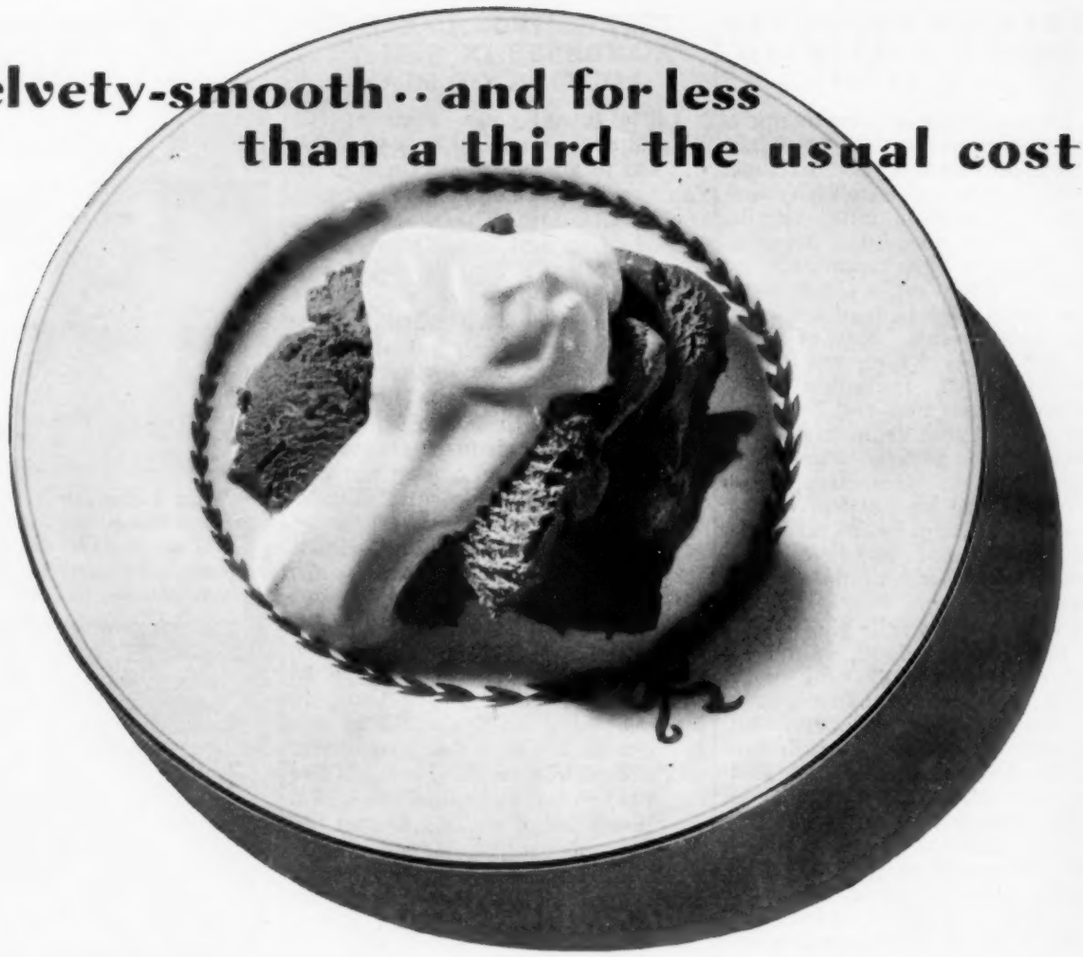

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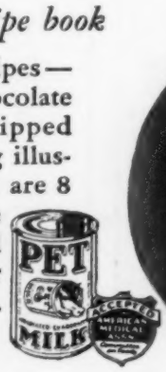
which contains 65 recipes—among them, the Chocolate Mousse and the Whipped Marshmallow Topping illustrated above. Included are 8 for frozen desserts to be made in a mechanical refrigerator and 2 for a hand-turned freezer.



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